

JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

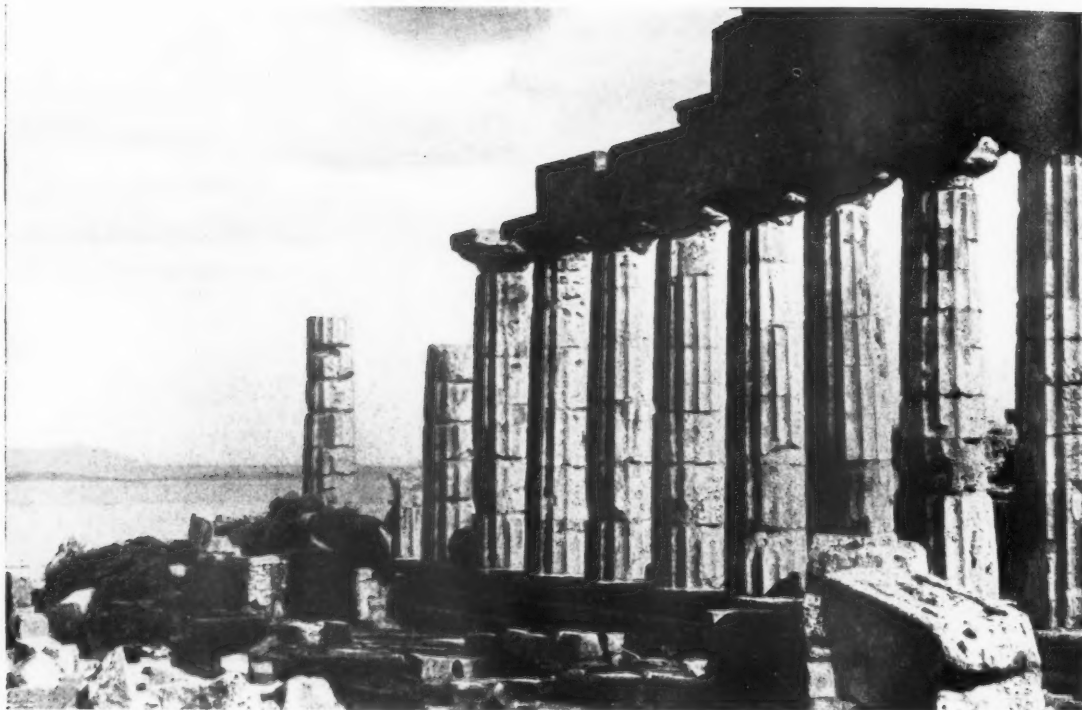
THIRD SERIES

VOL. 43. No. 15

6 JUNE 1936

CONTENTS FOR 6 JUNE 1936

	Page
SELINUS. From a Photograph by Charles Holden [F.]	<i>Frontispiece</i>
JOURNAL	787
THE BUILDING RESEARCH STATION	789
NOTES ON A SICILIAN TOUR. Hope Bagenal [A.]	803
THE INFORMAL GENERAL MEETING. 19 May 1936	813
ARCHITECTS AND SCHOOL BUILDINGS	817
TWO BUILDINGS AT OUNDLE SCHOOL	818
THE STANDARDISATION OF BUILDING COMMODITIES	825
REVIEW OF PERIODICALS	826
ACCESSIONS TO LIBRARY	827
THE OPENING OF THE EVERYDAY THINGS EXHIBITION AT BRISTOL	829
THE ATTENDANCES AT THE RECEPTION	831
CORRESPONDENCE :	
EDUCATION AND CIVIC ARCHITECTURE. A. Trystan Edwards [F.]	833
ARCHITECTURAL COMPETITIONS. G. H. Wenyon [F.]	834
NOTES	834
ALLIED SOCIETIES	836
SCHOOL NOTES	836
NOTICES	837
COMPETITIONS	838
MEMBERS' COLUMN	840
ARCHITECTS' AND SURVEYORS' APPROVED SOCIETY	840
ARCHITECTS' BENEVOLENT SOCIETY	840



VIEW OF SELINUS SHOWING THE COLUMNS OF TEMPLE C RE-ERECTED
 (Some notes on a Sicilian Tour, by Hope Bagenal, see p. 808)

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JOURNAL OF THE ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 43. 3RD SERIES

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Journal

THE BUILDING RESEARCH STATION

The principal article in this number describes the rapidly growing influence of research on architecture and building technique, and particularly of that part of it which is the province of the Building Research Station. That it is desirable for architects, in their own interests, to have a knowledge of the Station's work is now beyond dispute; soon such knowledge will be essential. The best way to acquire this knowledge is to join one of the regular visits to the Station organised by the Science Committee, because special arrangements are then made to demonstrate the architectural side of the work. We suggest that if heads of firms would allow their assistants to join these visits, in addition to doing so themselves, they would find the time to be very profitably spent. The next visit has been fixed for the afternoon of Thursday, 18 June. Those intending to join should send their names in to the Hon. Secretary of the Science Committee.

THE PRESIDENT AND SECRETARY HON. MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

At the annual convention of the American Institute of Architects, held at Williamsburg, Virginia, the President was elected an Honorary Member of the A.I.A. The Secretary, Sir Ian MacAlister, was also elected an Honorary Associate on the same occasion.

THE JUBILEE OF THE SVENSKA TEKNOLOGFÖRENINGEN

Professor Abercrombie, who has just returned from Sweden, where he was the R.I.B.A.'s delegate at the 75th year celebrations of the Svenska Teknologföreningen, reports that he had a most successful and delightful time. The presentation of the Addresses took place in the presence of the King, the speech on behalf of the English institutions being made by Professor Lewis, who represented the Institute of Civil Engineers. At the banquet, under the chairmanship of the Crown Prince, Professor Abercrombie spoke on behalf of all the foreign countries excepting the Scandinavian ones. He therefore had the honour of representing France, Germany, U.S.A., Holland, Belgium, Austria, Czechoslovakia and Great Britain. Professor Abercrombie also

reports that at the banquet Ragnar Ostberg was wearing the British Royal Gold Medal.

EXHIBITION OF PHOTOGRAPHS OF PERSIAN ARCHITECTURE

On Tuesday, 9 June, at 3.30 p.m., His Excellency the Iranian Minister will open an exhibition of photographs of Persian architecture in the R.I.B.A. galleries. The exhibition will include several hundred photographs, mostly taken by Dr. Arthur Upham Pope, as part of the great architectural survey undertaken by the American Institute for Persian Art and Archaeology; they will give not only a magnificent general picture of the architecture of Persia, but will show for the first time in this country the latest results of the American Institute's work. Dr. Pope has been able to attain results hitherto unattainable by students of Persian buildings since in 1929 the present Shah granted him permission to enter the mosques for the sake of systematic study. All members of the R.I.B.A. are welcome at the opening. The exhibition will be open each week day from 10 a.m. to 8 p.m. (Saturdays until 5 p.m.).

RECEPTIONS AT THE R.I.B.A. AND THE A.A.

The last JOURNAL went to press just too soon for it to contain any report of the R.I.B.A. Reception which was held on the 20th of May. It was an excellent occasion. The building never looks better than it does when full of fine dresses on fine people, and there were many of both. The only cause for regret was that the weather was dull and cold so that we could not make use of the terrace, which had been prepared with floodlights and tables and chairs. On another page is a list of those who accepted the invitation. The Reception at the Architectural Association, which took place a fortnight later, was as good a show as A.A. receptions always are. The A.A. has a tradition in its receptions of crowds, and gaiety and informality and a multitude of things to do and see, which this year's reception excellently maintained.

ARCHITECTS AND THE FALL IN POPULATION

The organisation known as P.E.P., or Political and Economic Planning, has recently published a valuable

survey of population statistics which contains many facts of importance to housing experts. It is generally assumed that some decline in the population of England and Wales is inevitable, but the authorities are by no means agreed as to when the decline will start and how rapidly it will proceed. It is popularly assumed that a considerable fall is due almost at once, but the figures of at least two experts calculate that the population for 1940-41 will be greater than it was in 1935, though all but one estimate a substantial decline by 1965.

In the table given below, Dr. Charles has based her figures on three different assumptions. The first is that mortality and fertility are constant at the 1933 level, the second is that both rates follow the trend of the last decade, and the third is that the mortality continues at its present trend and fertility remains constant. Mr. Wilson assumes no migration, the maintenance of the present marriage rate and a decline in mortality. Dr. Leybourne, whose figures have perhaps been the most widely quoted, concludes that mortality will remain constant while fertility will decline at the existing rate until 1944, after which it will be stable. The figures are as follows:—

	1941	1965
Dr. Enid Charles :	Thousands	
1	40,855	38,504
2	40,619	35,799
3	41,448 (1940)	43,744
Dr. Leybourne ..	39,870	32,878 (1966)
Dr. Norman Wilson	40,615 (1942)	37,470 (1962)
Dr. E. C. Snow ..	40,296	—
The Registrar-General	41,000	—

The variation in the figures gives sufficient warning that no definite estimate can be made, nevertheless certain facts are well established. The first is that some decline is inevitable, another is that ever since 1903 the number of births has declined while the mortality rate has not grown greater, consequently the nation as a whole is growing older. In 1901 there were three people under 40 to one above; now the proportion is less than two to one. Dr. Leybourne assumes that by 1956 half the population will be over 40. It is not possible to enter into all the sociological effects of these changes here. It is clear enough that every side of life, political and economic, will be affected to such an extent that many of the assumptions which have governed policy will have to be scrapped.

"In housing" (we quote the P.E.P. bulletin) "The repercussions will be terrific. How many people realise that the number of houses built in England and Wales since 1931 has been about half as great again as the increase of persons and nearly twice as great as the increase of families? After arrears are made up, the annual rate of house building needed to keep pace

with the future increase of families will be very much less. The Registrar-General forecasts an increase of private families in England and Wales from 10.23 millions in 1931 to 11.15 millions by 1941. Mr. Norman Wilson, in *Public Administration*, January 1935, estimates an increase of families to 11.4 millions in 1952. Half this increase in families has probably already occurred, and almost all the rest will occur probably before 1947. Assuming a housing shortage of some 463,000 in 1934 on a basis of one family per dwelling, Mr. Wilson estimates that the annual rate of building needed to keep pace with the increase of families will fall from 97,000 a year during 1934-37 to 73,000 a year during 1937-42, and as little as 4,500 a year between 1947-52. If, therefore, house building is to continue on anything like its present scale beyond the next ten years, it must be building with the aim not of adding to but of replacing obsolete and unsatisfactory accommodation. The building industry will, in fact, be free for an immense slum clearance programme, including, perhaps, the demolition of a part of the new slums erected during 1931-36."

No less important are the many other direct and indirect effects of population changes. Fewer children will want fewer schools; a smaller population will want fewer goods and fewer goods mean fewer buildings in which they are made. A higher average aged population will perhaps tend to greater conservatism in ideas in the nation as a whole. These and many other features of population changes deserve close attention, particularly by planners and housing architects whose work even if conceived to-day in a hand-to-mouth manner will exist and affect the structure of life many decades hence when conditions will be utterly different.

TREND

A new half-crown magazine with the significant name *Trend* has recently appeared, sponsored by the Design and Industries Association, whose official journal it is. *Trend* has several claims to attention. As the D.I.A.'s paper it can claim to speak with the authority of the Association. As a good-sized quarterly it will be able to treat a wide range of subjects fully and in expert manner, benefiting from the three months gap between publication dates. The first number has articles on pottery, refrigeration, zip fasteners, furniture, packaging, and much else. The editorial committee has been well formed of people, architects among them, of a wide range of experience. It is a body which should be able to combine the requisite degrees of sanity and imagination needed to steer a journal among the cross currents, economic and artistic, which complicate the course of any journalistic enterprise. We wish *Trend* luck as the journal of a sister society which in its foundation and throughout its existence has had close personal ties with the R.I.B.A.



A general view of the old country house which forms the nucleus of the Station's buildings

THE BUILDING RESEARCH STATION

ITS ORIGIN, WORK AND SCOPE

INTRODUCTION

To many architects the Building Research Station is still little more than a name signifying certain somewhat remote laboratory investigations into the qualities of materials. The important part that it already plays in the ordinary everyday practice of building is imperfectly understood. Still less realised is the dominating influence which the Station certainly will exert in the future.

It can be said that no architect can have a proper appreciation of the work of B.R.S. until he has visited the Station at Garston at least once, preferably several times. This account has been written partly as a substitute for a visit, but mainly to encourage architects to go and see for themselves. The general aim is not only that architects should consult the Station when they experience trouble with materials—indeed, the Station, one gathers, does not complain of neglect in that respect—but rather that the individual architect should realise the importance of the work done and the growing benefit that it gives him in his everyday practice.

It should be noted that the Station always welcomes visitors, but prefers them to come in parties, giving due notice beforehand, so that not only is the routine

not unduly interrupted, but to allow of special arrangements or demonstrations being made. Architects are therefore advised to join the visits organised by the R.I.B.A. Science Standing Committee.*

It is proposed to discuss in this article: (A) The Past: the recent changes in building technique and how they caused the Station to be created; the activities of the Station. (B) The Present: the work in detail of the Station at the present time and what it has so far accomplished. (C) The Future: the probable relations between building research and building technique in the future.

PART I BUILDING TECHNIQUE OF THE PAST

Within the memory of many men in the industry, building was a purely traditional craft. Materials were limited in number and their use was well understood by workmen and embodied and handed on in craft traditions. Similarly, knowledge of building construction changed little with the passing of time and could be learnt by the young architect from his fellow-workers in the office or from text books that required revision only rarely.

Moreover, materials were mainly obtainable in strictly defined areas. This maintained the craft system and ensured a steady development of skill and knowledge, unaffected by strange incursions from outside. The creation of railway transport in the nineteenth century had affected this system very little compared

*The next Science Committee visit to the Station has been fixed for 18 June, in the afternoon. Those intending to join the visit should notify the Hon. Secretary of the Committee. Full particulars as to times, etc., will be found under "Notices" in this number.

with the almost complete break-up that cheap road transport has brought about.

Moreover, even the largest buildings were comparatively simple. The present-day complications of mechanical equipment were non-existent. Planning even was conservative and followed accepted lines. The sciences of acoustics, illumination and ventilation were in the infant stage.

Four powerful forces have brought about revolutionary conditions in building. These are: cheap transport; new materials; new and much more complicated types of building; greatly increased speed of erection. These forces are but expressions of the new fundamental driving urge of mankind towards greater freedom of life, wider democratisation and expansion of scientific knowledge.

It is therefore hardly to be wondered that building technique has, so to speak, been thrown into the melting pot, or that knowledge of the properties and appreciation of the possibilities of present-day resources have lagged behind their development. Until a few years ago both architectural and technical education were hardly aware of the fundamental nature of the changes or even that they had taken place.



The interior of the brickwork laboratory

This would, however, have been relatively unimportant were it not for the fact that the craft traditions in the industry have broken down in the face of new materials and the greatly extended horizons of the older ones. This has caused a host of troubles and failures even in buildings erected on purely traditional lines.

There could be only one solution to the complex problem here represented and that was research. The word "research" applied to building means two things: the determining of the exact behaviour of materials under conditions of use; the analysis and definition in scientific terms of the factors influencing the use of buildings. It infers the dissemination of the knowledge gained, a new outlook and new methods in architectural and technical training and a new conception of the fundamentals of architecture on the part of its practitioners. Let us take a simple illustration of the change. In the old days the process of building a wall required of the architect mainly a purely æsthetic consideration. Factors of safety were customarily extravagant and the problems of stability and bearing capacity worried him but rarely. Principally he was concerned with obtaining an effect of massiveness, with the colour, texture, modelling, fenestration and jointing of the surface material. Heat insulation, sound insulation and weathering looked after themselves. Nowadays the wall has become a much more complicated problem, particularly where the work of load-bearing has been taken from it. The architect will tend to consider first lightness in weight, ease and speed of erection and cheapness; then come weather-resistance, upkeep, thermal insulation and sound transmission; consideration of appearance, though by no means unimportant, is likely to come last. Here is represented a profound change in outlook.

THE ORIGIN OF B.R.S.

These influences gave birth to the Building Research Station in the year 1920 in accordance with the following terms of reference: "To consider and direct the conduct of research on building materials and methods of construction." Building research had first come under Governmental notice in 1917 with the formation of the Local Government Board Housing (Building Construction) Committee. The report of this Committee led to the creation of the Building Materials Research Committee, whose activities were mainly concerned with cottage building. It soon became obvious that the scope of the work envisaged necessarily extended far beyond the requirements of cottages and that a great deal of fundamental research into materials of all kinds was needed. This led to the formation of the Board and the Station which it controls. It should be recollected that the architectural profession has exercised a considerable influence both in the establishment and in the development of the Station.

The Board is a part of the Department of Scientific and Industrial Research. It is composed essentially

of architects, builders, engineers and others with a practical knowledge of the industry and covers the greater part of the field of building activity, though certain matters are the business of other sections of the D.S.I.R. For example, the Forest Products Research Laboratory covers in a comprehensive way all problems connected with timber. The National Physical Laboratory carries out for the Station general work on thermal conductivity of materials as well as experimental work on acoustics; this last is controlled by a joint committee of the two institutions. Similarly research on heating and ventilation is dealt with under a joint committee of the Station and the Fuel Research Station.

Through the Department, too, the Station has a link with the various grant-aided research associations; these contribute to the general pool of research knowledge and the Station is able to take advantage of the work of those which affect building. Among such associations are the British Non-Ferrous Metals Research Association, the British Electrical and Allied Interests Research Association, the Research Association of British Paint, Colour and Varnish Manufacturers and the Research Association of British Rubber Manufacturers.

The Building Research Station was first established at Acton, but in 1925 was transferred to Garston, near Watford. The first Director was Mr. H. O. Weller; the present Director, Dr. R. E. Stradling, was appointed in 1924. The present Chairman of the Board is Sir Raymond Unwin. In recent years the Station has grown rapidly as the demand for its services has increased and the scope of the work widened. At present the technical staff consists of 108 persons, either chemists, physicists, engineers or architects. The total personnel, including clerical and industrial staff, numbers 174.

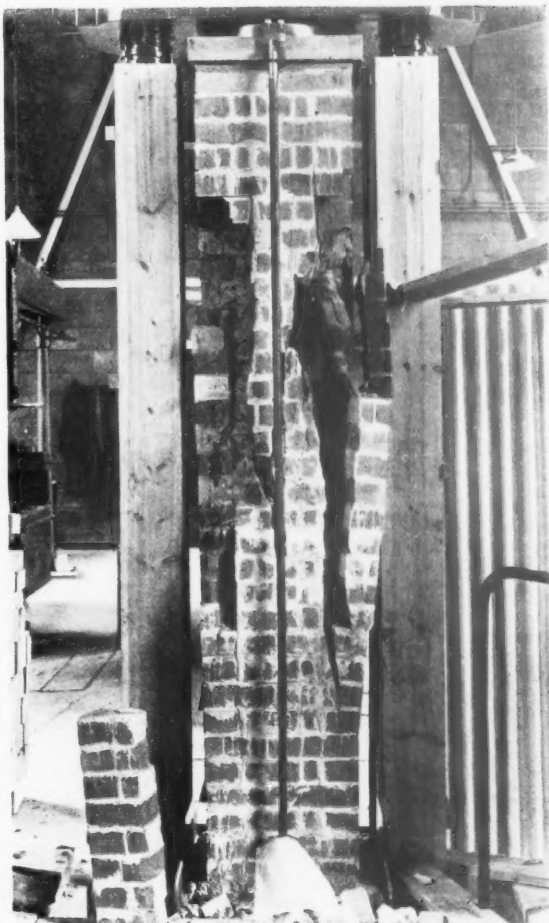
It is not inappropriate to refer here to one man to whose early labours and unique qualities the present successful work of the Station is in no small measure due. The late P. W. Barnett was an Associate of the R.I.B.A. who had specialised in the scientific side of his profession. Barnett had a clear vision of the change from rule-of-thumb to scientific basis which building construction was undergoing. Knowing both sides of the problem, he formed an almost invaluable link between the scientists and the architectural profession. His death at an early age was a great loss.

THE ACTIVITIES OF THE STATION

The activities of the Station may be described under the following heads:—

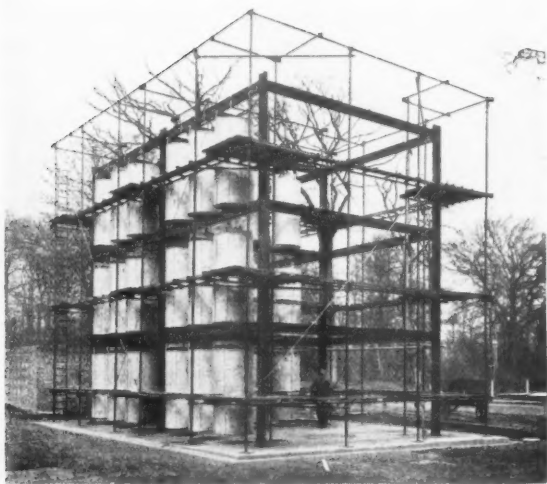
- (a) General Research.
- (b) Co-operative Research.
- (c) Special Investigations for Manufacturers.
- (d) Dissemination of Information.

(a) *General Research.* Under this heading is embraced the general body of research work carried out at the Station, and on which the industry must mainly depend



The result of a compression test on a brickwork pier

for the development of building science. It covers a wide variety of work ranging from investigations of a fundamental scientific character, whose application may not be immediately obvious to the layman, to work the implication of which does not need elaboration. No research is undertaken at the Station which has not in the long or short run a definitely practical aim, but fundamental scientific work becomes, on occasion, a necessity if the research worker is thoroughly to understand his material and be able to give practical advice on it. A good example of this type of work is that on the constitution of Portland cement, which is of a highly technical character, and for which the Station has gained a considerable reputation. In the general research work of the Station there are also included investigations which are concerned less with the laboratory and more

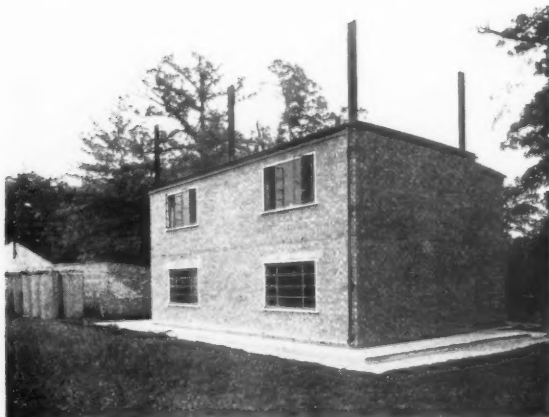


The special steel framework erected for some of the work which resulted in the Steel Structures Research Report. (See also below.)

with studies on actual buildings. A small example of this type of work is provided by the recent article published in the JOURNAL on "Failures of External Cement Renderings."

In between these extremes there is included a variety of work of which examples will be given later.

(b) *Co-operative Research.* The building industry, considered in its widest sense, covers a multitude of activities: those of the architect, the builder, the engineer, the heating and ventilation expert, and so on, together with those of the industries which manufacture or supply the materials used in building.



The same structure as above, now converted into a building for full-scale sound transmission work

Research by these industries on manufacturing problems is vital to the industry. In some cases the industries concerned are sufficiently extensive (and progressive) to maintain research organisations of their own. In other cases they are small or have not yet reached the point of development at which the maintenance of a representative research organisation becomes a practical possibility. The Station is, however, ready to assist in such cases by arranging schemes of research on a co-operative basis. A good example is provided by the Cast Concrete Products Association, with whom the Station has carried on co-operative research which is believed already to have resulted in a general improvement of the quality of cast stone on the market. Co-operative research is, in fact, an important part of the work of the Station, and is valued for the reason, among others, that it ensures close contact between the Station and interested outside bodies.

Researches on such a basis may be arranged not only with groups of manufacturers but also with professional and other institutions. The research on pile driving, for example, which was initiated in co-operation with the Federation of Civil Engineering Contractors, is being continued in co-operation with the Institution of Civil Engineers, which is also working with the Station in other directions.

The Station's organisation is, therefore, at the service of any trade group or professional institution in carrying out useful schemes of research, to which the outside body concerned, having a particular interest in the work involved, contributes on an agreed basis.

(c) *Special Investigations for Manufacturers.* Manufacturers frequently desire to have independent reports on their products. The Station carries out a considerable volume of such work and issues reports on the results, which the manufacturer is at liberty, under suitable conditions, to use as part of his trade literature. Since such reports are the most reliable testimonials that architects can have as to the properties and behaviour of proprietary articles, we have indicated our willingness to publish them on demand in the R.I.B.A. JOURNAL, and several such have been published.

Architects are well advised in their own interests to ask manufacturers submitting new materials, for B.R.S. or other authoritative reports. It follows, too, that the facilities provided for work of this nature should be particularly valuable to the manufacturers themselves when engaged in developing new products.

(d) *Dissemination of Information.* The dissemination of information takes place in various forms. First the Station publishes the results of its work in Annual Reports which cover the activities of the Station generally from year to year; in Technical Papers which are essentially scientific accounts of research and are intended only for the technically qualified; in Special Reports in which groups of associated problems are dealt with in a comprehensive manner for the informa-



The lime research laboratory has a somewhat bizarre appearance as it is built of several different wall and roof materials in order that their weathering properties can be observed

tion not only of the scientific worker but of the manufacturer or user; and in Bulletins which set out briefly in non-technical fashion the practical results of specific researches, and are thus of particular value to architects. These reports are all published through H.M. Stationery Office.

Apart from publishing results of its work in this way the Station is ready to assist architects, builders and others engaged in the industry by answering enquiries on points of difficulty which have arisen in practice. This is an important and rapidly extending branch of the Station's work: in 1935, 2,373 enquiries and special investigations were dealt with—an increase of 284 over the previous year and of 847 over 1933. Of this total it may be noted that 737 came from architects and professional consultants, 562 from manufacturers and merchants, 434 from builders and contractors, 255 from private individuals, 189 from local authorities, 107 from Government departments, 69 from professional and industrial institutions and 20 from the technical press. Closely associated with this section are the investigations, which the Station is ready to undertake under appropriate conditions, of building failures. It is from this section of the work of the Station that are derived the series of "Questions and Answers," with which readers of the JOURNAL are familiar and which represent a selection of the more important enquiries received and the answers given.

The Library contains a comprehensive selection of

approximately 2,000 books, 14,000 reports, etc., and 1,100 bound volumes of periodicals. All the important English and foreign periodicals relating directly or indirectly to building science are received and abstracts prepared, of which the more important are published every month (H.M. Stationery Office) as Building Science Abstracts. It will be realised that the maintaining of a watch on the research work of other nations may save a good deal of research work in England, as well as supplying confirmatory evidence.

Further, special papers are communicated to the scientific and technical press—among them the R.I.B.A. JOURNAL—from time to time, and members of the staff give lectures to societies, architectural and technical schools. Latterly there has also been an interesting development in the decision to hold exhibitions of the work of the Station at local centres as well as at the Building Trades Exhibition in London. Three have already been held, the first at Bradford, the second at Manchester and the third at Bristol.

In the early days of the Station much of its work had necessarily to be tentative, but as more and more information has been gained from its research work and its experience in dealing with building troubles it has become progressively more complete and assured. It has now become possible to consider the production of a Textbook on Building which will set out in convenient, comprehensive form the knowledge accumulated at the Station. The preparation of the textbook

is now in hand. The Station has been encouraged to undertake this venture by the Ministry of Health Committee on the Construction of Flats for the Working Classes, by the Royal Institute of British Architects and by the Chartered Surveyors' Institution.

PART II

B.R.S. AND BUILDING TECHNIQUE

The architect who is not conversant with the Station's work will wish to know something of the ways in which it is affecting practice. Any written survey, brief as it must be here, will necessarily give an incomplete picture. Nevertheless, it is worth while describing in general terms the principal lines of research, some of the results so far obtained, and the aims it is hoped to attain.

It should be realised that length of description bears little relation to the scale of any particular investigation. It may be that months, even years, of work have been expended on results that can be stated in a few sentences or compressed into a table of comparative figures.

The sub-divisions given below are somewhat arbitrary and indicate a compartmenting of the work which does not in fact exist. For example, bricks will be found under "Materials" and brickwork under "Strengths of Materials." These really form one subject, but so much of the work of the Station has a variety of aspects that any arbitrary sub-division is bound to be more or less defective.

MATERIALS

Clay Products. In addition to bricks, these include roof tiles, floor tiles, terra cotta and glazed clay products. The materials are studied from the points of view of durability, uniformity, permeability, strength, etc.

Many of the causes and effects of efflorescence have been elucidated. Similarly, lamination in bricks and

roofing tiles has been examined. As a result, the manufacturer has been helped in his endeavour to produce products free from these defects. Much work has been done for manufacturers, both individually and generally, including investigations into the suitability of clays and brick earths, and on firing and kiln control. A very useful piece of general research was an examination of the brick industry and of methods of manufacture, summarised in B.R. Special Report No. 20.

Natural Stones and Slates. In spite of there being a considerable amount of published information on natural building stones, it was found that the information given was generally unreliable and irrelevant. Reliance by the architect on the reputation of a quarry is necessarily dangerous, since, owing to geological causes, the quality of stone may change rapidly as the quarry is worked. The factors governing the decay of stone have been investigated at great length and a great deal of information has been obtained. A detailed account of the work has been published in B.R. Special Report No. 18, "The Weathering of Natural Building Stones."

Portland is the stone which so far has received most particular attention, largely because the problems of one stone were about as much as could be tackled at once. It is now possible to tell by simple methods fairly exactly how a particular piece of Portland stone will behave. A more rational method of choosing this stone than by specifying a quarry or a bed is therefore now available.

Somewhat similar work has been done on Clipsham stone. At the same time, a large amount of data has been obtained for other commonly used limestones, e.g., Bath, Magnesian, etc., and also many sandstones, all of which information is available to architects.

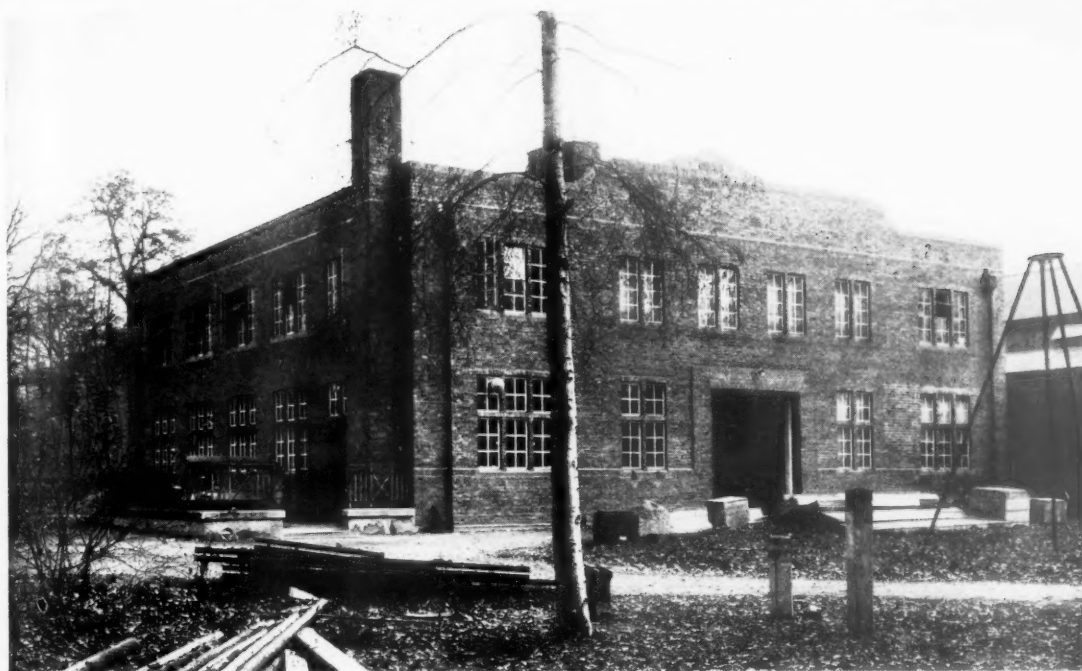
Work has also been done on so-called stone preservatives. In general the Station is very sceptical of those which have been tested, since cases where their use has caused accelerated decay are not uncommon. They are inclined to think that the best are simply those that do no positive harm. The effect of salts carried up in moisture from the ground has also been examined.

Simple tests for the durability of Welsh roofing slates have been devised. The Station has evolved a new lightweight aggregate in "expanded slate." The process consists in subjecting slate to heat, the effect of which is to expand it along the lines of cleavage to many times its original bulk.

Cements, Concrete, Reinforced Concrete and Cast Concrete. Of all the subjects in this attempted summary this one is the most difficult to describe in a few words. The research organisations of many nations are at work on the problems connected with what is relatively a new material. While observing the results obtained elsewhere the Station carries on its own investigations into shrinkage and creep, special bars and steels, the grading



Efflorescence test of three similar bricks from the same firing showing, left to right, bricks fired at 850° C, at 950° C and at 1050° C



The exterior of the cement and concrete testing laboratory

and workability of aggregates, special lightweight aggregates such as pumice and foamed slag and into structural design in general. All these investigations involve the making of structural units, their curing and their testing to destruction in various machines. Cracking of concrete structures, the behaviour of concrete in sea water and types of surface finish are other



Interior of the main room of the cement and concrete laboratory

matters in process of study. Much of the work has been done for and in collaboration with the Reinforced Concrete Association, and work has been started with the Cement and Concrete Association.

As previously mentioned the building industry is already benefiting from the work on the causes of crazing in cast concrete, undertaken for the Cast Concrete Products Association. A carbonation curing method for cast concrete has also been evolved and is in process of being taken up by the industry. Largely as a result of the Station's work a B.S. Specification for concrete roofing tiles has been issued.

Limes and Plasters. There is not space here to describe the complications which have arisen in connection with limes and plasters as a result of the breakdown of the old craft areas and the invention of new plasters—complications with which architects are only too well acquainted. The Station is at present in the thick of investigation and research work which they hope will one day clear the whole matter up. A B.S. Specification for building limes is in course of preparation, but how effective it will be, if and when it is finally published, is uncertain. Moreover, it does not touch other plastering products about which there is an almost equal degree of confusion. The Station have, for example, found that the term, "Keene's Cement," in



Testing the penetration of moisture through various wall constructions

practice covers a wide range of gypsum products that may have excellent qualities (and high price) and may also have exactly the reverse; in fact, the term has no definable meaning.

That the Station will one day clear up this confusion is certain, but that day is still some way off. Perhaps, meanwhile, the safest course for architects is to use those plasters to which their contractors' workmen are accustomed, though this by no means always avoids risk of failure.

Sand-Lime and Shale-Lime Bricks. The sand-lime brick has now become firmly established as a reliable product and its early manufacturing troubles are a thing of the past. The full story of sand-lime bricks is told in B.R. Special Report No. 21, *Sand-Lime Bricks*, now out of print, but of which a new edition is to be issued. The Station has also done some work on shale-lime bricks, of which the major component is crushed shale from waste dumps. These are now being manufactured in the north of England.



Comparative tests of different makes of tile laid at different pitches. They cover part of the lime testing laboratory

Asphaltes, Bitumen and Bituminous Felts. The Station is at present in the middle of some large-scale research work on asphalt technique in collaboration with the Natural Asphalte Mine-Owners' and Manufacturers' Council. The problems of weathering and blistering have already to some extent been investigated and a special note on blistering was contributed to the *JOURNAL* on 9 December 1933. The work includes both laboratory tests and exposure tests on actual roofs, the latter naturally taking some years to give full results.

Paints and Surface Waterproofers. Paint problems are many and complex. Not only is there the quality of the paints to consider (and more and more new types continue to come on the market), but also the effect of the backgrounds to which they are applied. Different plasters all introduce their own problems and so do the factory applied "primings" on such articles as metal windows.

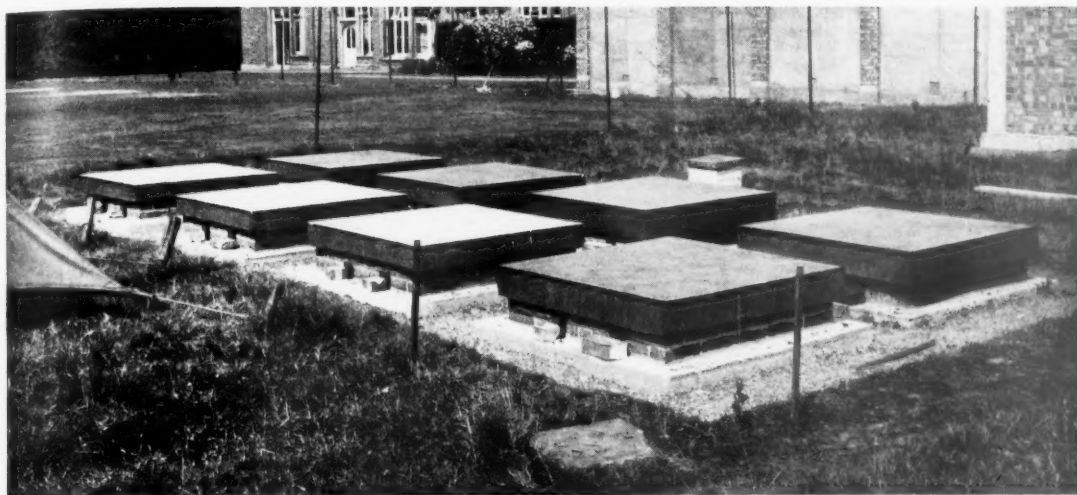
Hitherto the Station's work on paints has been confined to the effects of plasters, etc., on the paint, and results have been published in B.R. Bulletin No. 11. Collaboration has now been arranged with the Paint Research Association and the work is being extended to cover the whole range of paint problems with respect to building.

Of waterproofers the Station say definitely that the colourless ones can, at best, only be expected to have a life of 2-3 years when used externally. Pigmented waterproofers can be more durable, as is instanced by the results obtained with some of the stone paints now marketed by several firms.

STRUCTURES

Acoustics of Auditoria and Sound Transmission. The acoustic design of auditoria is now a well-established science and though there is still work to be done on the sound absorbent properties of surface finishes, ample knowledge exists to render bad acoustic design inexcusable. In special cases the Station is prepared to advise on the design of new auditoria, but in general this is left to consultants.

Knowledge of the factors governing the transmission of sound, on the other hand, is extremely scarce. Practically the only fundamental fact known is that the sound transmitted through a rigid single partition is governed almost entirely by the weight per sq. ft. of the partition and not by the material of which it is composed. An intensive programme of research on all aspects of sound transmission is now in progress in collaboration with the National Physical Laboratory, and in this connection an existing building at the Building Research Station has been specially adapted for work on floors. The experiments here have been concentrated on the problem of impact noises, such as footsteps. It seems that adequate insulation against impacts is given by no form of fire-resisting floor alone, and the tests have therefore mostly been on



A test for resistance to the penetration of solar heat of different flat roof structures and finishes

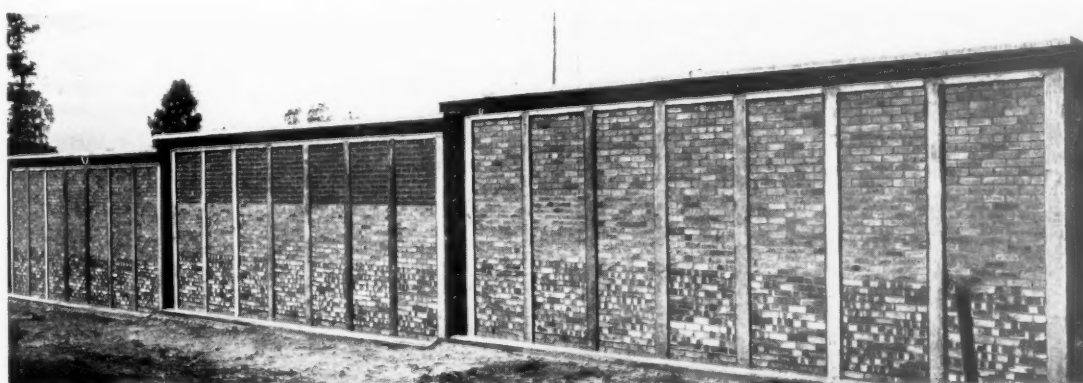
different forms of treatment of the upper and lower surfaces, especially "floating" floors and suspended ceilings. No timber floors have yet been tackled.

The various paths by which sound can find its way from one part of a building to another are so complex that tests on isolated units must be supplemented by full-scale tests on complete structures. Where opportunity arises field tests are undertaken in actual buildings and an existing steel frame at the Station has been clothed to make a two-storey building in which constructions, shown to be promising by laboratory work, may be tried out on the full scale.

Fire Resistance. Readers of this JOURNAL will be conversant with the steps that led to the opening last

November* of the Fire Testing Station erected by the Fire Offices Committee at Boreham Wood. By arrangement with the Fire Offices Committee, the Building Research Station will be able to carry out at the new Station a programme of research work as well as undertake tests for manufacturers of the fire resistance of elements of structures, in accordance with B.S. Specification No. 476, where a certificate of fire resistance is required. Tests already made indicate that prevailing ideas on fire-resistance and consequently controlling regulations may require to be radically changed before many years have passed.

*R.I.B.A. JOURNAL, 7 December 1935, pp. 138-141.



A recently erected range of different brick walls for a test of moisture penetration. The framework consists of old concrete piles, re-used from a series of pile-driving tests

Soil Physics, Foundations and Piling. Work has been started on the physics of soils as affecting foundation work; for example, the shrinkage of clay, how it affects foundation bearing and consequently how to guard against troubles arising from it. Some remarkably interesting tests on the internal stresses set up in reinforced concrete piles during driving have been recently concluded. This work, done in co-operation with the Federation of Civil Engineering Contractors and the Institution of Civil Engineers, as already stated, will materially affect the design of piles and the methods used in driving them.



A building housing an impact-testing machine for determining the internal stresses in a reinforced concrete pile during driving

Exclusion of Moisture. This is a seemingly eternal problem with apparently endless ramifications; it is, moreover, one with which the whole building industry is continually concerned. The subject falls under two heads. The first—moisture rising from the ground—involves studies of dampcourse material, the placing of dampcourses in unusual bits of structure, solid ground floors, etc.

The second part—the exclusion of rain—is the more complicated and difficult. It involves consideration of the pitches and materials of roofs, design of parapets and chimney stacks, materials and design of walls, surface treatment of walls, choice of mortar, etc. Tests are carried out of water penetration through experimental wall panels, but much of the information accumulated is derived from observation of the behaviour of actual buildings under various conditions of exposure. Not only is the question strongly influenced by costs and current building practice, but impinges on that of heat losses through walls.

Many of the results so far obtained have been published from time to time, mainly in "Questions and Answers." A few may be mentioned. They are: that the cavity wall, if properly detailed, is the best method of excluding driving rain in brick structures; that renderings which crack and craze are liable to trap moisture in the wall, both damaging internal surfaces and lowering its thermal insulation; that projecting eaves and cornices are definitely beneficial in preventing the penetration of rain; that window sills should project and have drips; that a lime-mortared wall often tends to admit driving rain less readily than one in strong cement mortar.

Strengths of Materials and Composite Units. In this part of the work the elaborate compression and tensile testing plant of the Station is used. It includes the testing of samples of materials and of structural units such as reinforced concrete beams and columns, rolled and pressed steel sections and piers and walls in brick or partition block. The strengths of single bricks are related to brickwork in various mortars. There is still many years' work ahead in these sections, since, for example, with brickwork each type of brick requires to be tested in various structural forms and different mortars. The crushing of a brick pier or the breaking of a reinforced concrete beam is one of the few really spectacular "turns" that the Station can offer a visitor.

Internal and External Plastering. Under this head are included such problems as the effect of mixing different plastering materials, the relation between plaster coats and backgrounds, the influence of the mix and of the method of application on the efficiency of renderings, why ceilings fall, and many others.

In connection with the plastering of ceilings, it has been shown that under modern conditions, where coats of plaster follow one another quickly and where many other trades are at work while plastering is in progress,



The heating laboratory. A heavily insulated outer structure has its inner surfaces lined with heating and refrigeration panels. Inside is a completely separate and typical room. By varying the temperatures of any section of the outer walls, the conditions to which the inner room is exposed can be exactly controlled. On the left is the heat control room and on the right the observation room

early strength is essential. When non-hydraulic lime mixes are used they should, therefore, be gauged with a material having a definite set.

Flooring Surfaces. The work under this heading has been intermittent and has dealt with various problems as they have arisen. Included are such things as the adhesion of rubber flooring, the dusting of concrete and granolithic floors, hardness (by abrasion test) of various flooring materials, the technique of laying and the adhesion of floor tiles. Probably the most important thing has been the preparation of "Recommendations for the Manufacture of Magnesite Composition Flooring and Dadoes." It has been prepared with the help of the Station by the firms now forming The Jointless Flooring (Oxychloride) Association. When available for use in architects' specifications, these rules should remove finally the ills which have hitherto beset this material. The document is now under review by a specially appointed Committee of the Board with a view to its publication.

AMENITIES OF BUILDINGS

Heating, Ventilation and Insolation. These are the three things principally governing "comfort conditions in buildings," and are closely inter-related.

Realising the fact that the thermometer and thermostat, working according to air temperatures, do not

wholly reflect the sensations of heat and cold felt by a human being, the Station has devised the Eupatheostat for controlling comfort conditions and from it developed the Eupatheoscope for measuring them. The eupatheostat will turn heat off and on in electric fires, electric or hot water panels, or in hot water convectors (so-called radiators) just as a human being would do as he felt too cold or too hot. The different working of a thermostat and eupatheostat may be shown by the fact that the latter takes account of warm sunlight entering a room, whereas the former does not.

Heat losses through walls and roof have been to some extent and are still being investigated. Much work on this has been done in other countries, but a great deal still remains to be done. Similarly the penetration of solar heat through roofs is being examined.

A remarkably interesting new heating laboratory has just been erected, towards the cost of which the Institution of Heating and Ventilating Engineers collected a substantial contribution. It consists of a typical room with windows, fireplace and door, completely surrounded by an outer structure which is heavily insulated. In the outer structure are panel coils for heating and refrigeration. Thus, any surface or combination of surfaces can be given any desired temperature,



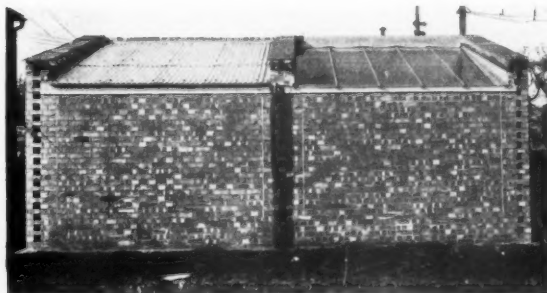
The experimental house for heating and ventilation work

so that the conditions to which the inner room is exposed can be precisely controlled.

Other work includes the measurement of the effect of air-grids and flues on the ventilation of rooms.

The work on insolation is well known to architects in the Report issued by a joint committee of B.R.S. and the R.I.B.A., entitled "The Orientation of Buildings." Two useful pieces of apparatus were evolved, the heliodon, which allows the penetration of sunlight in any latitude and at any time of year to be ascertained on the model of a building, and the pinhole camera, which gives a photographic record of the sunlight entering a room in a building.

Daylighting. The Station takes its share in the work of the Illumination Research Committee of the D.S.I.R. The Committee is also concerned with artificial illumination. The standards of daylighting, estab-



A building for ascertaining heat losses through roofs. Each of the two panels can be filled with a section of roof construction to its appropriate pitch

lished by the Committee, were recently adopted by the International Illumination Congress.

GENERAL

In the foregoing summary the phrases, "it is hoped," "some years ahead" and "before long" occur with sufficient frequency to indicate to the reader that the major part of the Station's work still lies ahead, or at least that a truly scientific basis for all branches of building technique has yet to be established. But when one considers what has been already accomplished in the Station's brief life of fifteen years, the majority of which were years of organisation and growth, the imminence of a scientific basis for building becomes obvious. The present time is an awkward period of transition which the end of the next fifteen years should certainly see ended.

PART III

THE FUTURE OF BUILDING RESEARCH

An examination of the possible future of building research, say at the end of another period of fifteen years, is desirable, if only as a logical conclusion to this article. Moreover, it is worth while because architectural and technical education must consider it, though the remarks made here are intended to stimulate thought in this direction and not to state any case for reform of teaching outlook or methods; the last is a matter for the educationists.

Existing Materials. We can certainly anticipate that the principal building materials now in use will have had their natures, methods of manufacture and technique of use thoroughly examined, and the results embodied in British Standard Specifications, in codes of practice or in B.R.S. recommendations for manufacture and practice. What has already been done for structural steel and reinforced concrete will be extended, in one form or another, to limes, plasters, asphaltes, paints, bricks, tiles and even to natural stones and slates and to many of the organic building materials.

Existing Structural Systems. Similarly the work on design of structures and amenities of buildings should establish certain forms of construction and the methods of building them as definitely superior to others. In other words, each major structural—and possibly planning—problem will have one or more solutions proved by scientific knowledge and experience to be the best. These forms of structure will take into account the scientifically established facts about fire-resistance, noise prevention, interior acoustics, heating, ventilation and insolation. This should greatly simplify building practice and allow the architect to concentrate more fully on the architectural expression of what will be accepted forms.

At present our efforts to vary or improve existing methods of construction are haphazard and unscientific. We do not know, except in a few particulars, how a building will behave until it is built. We do know the



The interior of the stone testing laboratory

loads it will carry, the amount of heat required to make it habitable (though this is not too certain) and the interior acoustics of its larger rooms. We do not know with any certainty whether the rooms will be comfortable for their occupants, how noisy the structure will be, whether the structure will crack, and where, or if the finishes will "stay put" and for how long. This can be contrasted with the scientific state of aircraft design which allows such things as the maximum and cruising speeds, the rate of climb, the ceiling, the payload and fuel consumption of an aeroplane to be known while it is still on the drawing board.

New Materials. Much of the talk one hears about "new materials" is found to refer, when examined, to new uses of old materials or to combinations of them. For example, concrete, mild steel, cork, plaster and paint are none of them new materials, though they have in recent years been combined in a new form of wall. Plastics, asbestos-cement, cellulose, and possibly wallboard can be more strictly defined as new materials, but though extensively used, they have as yet hardly affected the wholesale use of the older materials.

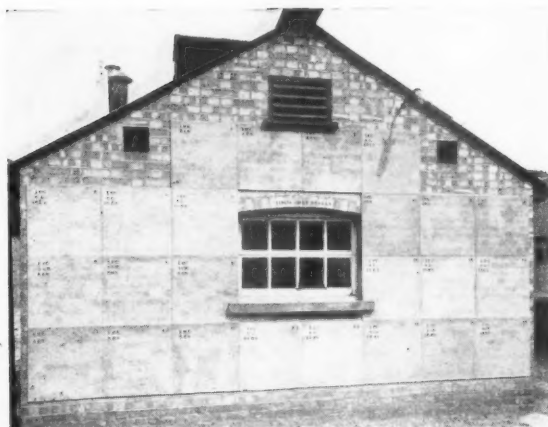
Though it is possible that ingenious chemists may discover things that would derange the present steady flow of building material manufacture, it is not likely. It would be a very safe bet that in fifteen years we shall still be using for building those products of the earth's crust—stone, steel, burnt clay, lime, cement (clay and lime), gypsum, bitumen and timber—which we are to-day, and very much in the same forms. Whatever forms they are used in, the fundamental research on their properties that is being undertaken will prove to have been worth while.

Research into new materials can therefore be taken to mean study of combinations, for specific purposes,

of materials of which the properties are known or are being investigated. This eventually should simplify the work of examining such so-called "new materials" as they are put on the market.

At present no manufacturer is compelled to submit his material to test, though more and more of them are realising the advantages of doing so. The risk of wasting money on an unsatisfactory material and possible errors in manufacture are avoided; moreover, the publicity value of a satisfactory B.R.S. report is increasing rapidly. Before long the manufacturer who produces a substitute for a material or form of structure in common use will be bound—morally, if not legally—to prove by B.R.S. or other appropriate report its superiority to the original on equal scientific terms. No longer should the onus be on the architect of deciding how much truth is in the smooth-tongued salesman. That useful influence of building research has already begun to be effective; it requires both more pressure on manufacturers from architects and more fundamental knowledge of the properties of materials to be fully effective.

Research and Bye-laws. The accumulation of sure knowledge as to the properties of materials and forms of structure is certain to lead to the revision of our empirical bye-laws; it is already tending to do so. Moreover, when such absolute knowledge is available the demand for a national system of building bye-laws will not long be resisted. When the properties of a material or form of structure are known for certain, disconcerting variations in the regulations of different local authorities become indefensible. That such a national system, once established, will be extended to cover stability, safety from fire (both fire-resistance and escape), sanitation and all the numerous regulations affecting building, is fairly certain. Research is, in fact, making possible a national code of building regulations. It is doing so by establishing principles on which an intelligently flexible system of regulations



A piece of blank wall used for comparative weathering tests of different renderings

can be based. The first step in this direction is seen in the new steelwork code prepared for the L.C.C., in which regulation is by qualities of materials and not by thicknesses.

Research and the Architect. We have indicated early in this article the change in outlook demanded of the architect. Such a change infers a corresponding change in architectural education as well as in building practice. It is early yet to forecast with any reasonable degree of accuracy what the changes in practice will be, because other factors besides research are involved. Still less is it possible at the present time to crystallise the new outlook into a stabilised curriculum of education. These remarks should not be taken to mean that architectural educationists are unaware of the changes that are taking place. Many of them are only too well aware of the difficulties resulting from what is a period of transition.

It can be said, however, that architecture is becoming much more a matter of organising building—in the widest sense—than one of mere draughtsmanship. The term "organising building" can be taken to mean planning, clothing the plan in structure, expressing the structure and arranging the operations of building. It is more a matter of "building sense" and less one of the drawing board. Indeed, a competent architect need not be a fluent draughtsman—though it is an advantage if he is—provided he can visualise form, structure and appearance in three dimensions and obtain in the building what he sees in his mind. It is sometimes forgotten that architecture is a matter of assembling materials and not of paper expression. When architecture was taken to be a matter of modelling and decorating known, simple forms of structure, draughtsmanship was a first requirement in the architect. It is so no longer.

It will not be necessary for the architect to be a chemist or physicist, though an elementary knowledge—which he ought to have from his public or secondary school—of these sciences is desirable. Neither need he be an engineer, though he should understand the principles of structural design and what present-day engineering resources in the way of spans and lightweight structure can give him. He will remain a planner, an organiser of building and a designer, utilising the means to building provided for him by others. But a democratic architecture is essentially one of use, as opposed to a splendid or scenic architecture of an aristocracy. The strongly marked tendency to study use in building will continue and extend; it must include a reasonably thorough understanding of the nature of the material resources with which use is achieved. The word use infers, in addition to planning, such things as comfort conditions, silence, insolation, wear and maintenance—all of them things on which B.R.S. is providing information.

It may be that, before long, research into use will have to take physiology and even psychology much more into account than it has so far done. A study of "comfort conditions" infers that of the effects of such influences as fatigue, light and colour on human beings. Such closer relation with medical science will open a whole new field of research, which will have its inevitable influence on architecture.

Research and Design. Corbusier's phrase "a machine to live in" has been taken by many to infer a negation of design in the architectural sense. To be misunderstood or misquoted is a danger which always besets the "snappy" phrase. Corbusier undoubtedly means that the problems (or programme) of the modern building have become both more complex and more exact, and they consequently demand a more thorough and more scientific study. He postulates a new mental outlook, though many of his imitators have merely preached a new style. There is no reason to suppose that mankind has ceased to require of architecture good massing, pleasing texture, lively colour or even pictorial decoration, but these things are not the dominating influences they once were. They are secondary matters arising from the study of use in an increasingly complex civilisation and all serious students of Corbusier will agree that that is his meaning.

The preceding paragraph is not so wide a digression as it may seem. It was nothing less than the study of use in architecture that led to the creation of the Building Research Station. The standards of use have been raised suddenly and extensively. The means, both new and old, with which architects and the building industry had to achieve those standards required examination and analysis. The results of research must therefore form the basis of what, for want of a better term, is called "the new architecture."

E. L. B.



Fig. 9 (see page 809). Girgenti. View of the temple in angle bastion called the Temple of Juno Lacinia

SOME NOTES ON A SICILIAN TOUR*

HOPE BAGENAL [A.]

I. FROM PALERMO TO SYRACUSE

I left for Greece with Mr. Charles Holden on 5 March 1935, but owing to the Greek revolution we came to the decision to go first to Sicily and begin our studies with some visits to the Palermo Museum. Accordingly we went on from Brindisi to Palermo. One cannot enter Sicily—that beautiful *media terra*, coveted, and grasped, by successive peoples—without some emotion. Approaching down the Adriatic coast Etna stands far away like a huge herm or tutelary divinity: then the climate, the Sicilian shore, the earlier spring foliage, is all something new. And there come forward to greet the student, like the most graceful of heralds, the sounds of the Greek place names *Himera*, *Panormos*, *Gela*, *Megara Hyblaea*. Surely there is none like them in the world. If one could find anywhere an image for early

Sicily it would be a wind-blown acanthus on the slopes of *Megara Hyblaea*. No wonder Pindar loved Sicily: it was prepared for him with names and words. But the modern student has to penetrate down to the Greek through glittering architectural layers of Spanish, Norman, Moorish, Roman. Palermo, like Naples, has a Spanish air; the balconies show the life of the people in its naïveté. One sees shops with daggers in one window and babies' cradles in another! The streets are alive with important men and vivacious women, and the children are all hoarse by the age of ten with shouting and calling street cries. But it is quiet in the museum, which is entered from the little square called the Piazza dell' Olivella. The new curator, Signor Professore Mingazzini (who has succeeded Professore Marconi), is courteous and helpful to students, and allowed us into the vaults where a

* Part of the Athens Bursary Report, 1935. Other parts will be published later.

large number of terra-cotta revetments are stored. This museum is the centre of Sicilian Greek studies owing chiefly to the Selinus and Himera fragments. And to see things in their right perspective it is necessary to realise the lack of marbles in Sicily and the results of that fact. Even the metopes of temple E at Selinus, of the fifth century, are not wholly of marble, but instead tend to have marble head, hand, foot, while the main carving is in a fine textured limestone (Fig. 1). Hence the development and continuance, owing to



Fig. 1. Palermo Museum. Metope of Selinus Temple E

this lack of marble, of the plaster coat or "slip,"* and hence also the very characteristic and widespread Sicilian use of terra-cotta revetments. We do not find in Sicily a whole marble temple like the Parthenon, nor marble revetments for stone buildings as at Olympia. The limestone is of the same nature as Greek "Poros" stone, and is found in different degrees of fineness. Thus in both temple E, referred to above, and also in the archaic temple C (Fig. 2) the metopes are of a finer limestone than the entablature.

In neither temple C or E is there the same thickness

* This term, borrowed from the technique of pottery, has been used by S. R. Pierce for defining the plaster or stuc coat on temples, and is convenient for that purpose.

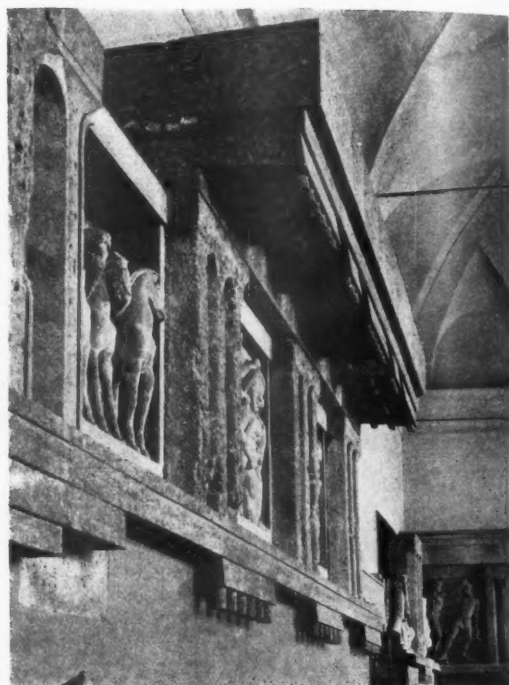


Fig. 2. Palermo Museum. Entablature of Selinus Temple C

of "slip" as on the Zeus temple drums at Olympia. The thickness in these examples is no more than the filling in of the pits of the limestone, giving a surface just smooth enough to take colour as in the Hekatompedon fragments in the Acropolis Museum at Athens. But Selinus temple B (entablature), Hellenistic in date, shows the thicker slip, about $\frac{1}{8}$ in. A third development of "slip" can be seen in some much later fragments from Girgenti in the Cortile Grande on the cloister wall, where a small entablature has plaster on the lintel, on the metopes and corona, leaving triglyphs, tenia band, cyma, in the ashlar stone.

Allied to the "slip" is the colour question, for which there is some useful data in the Palermo Museum. One of the earlier archaic metopes (about 600 B.C.) has, in the hollow of the carved ornament above the figure of Europa, a small but distinct trace of greeny blue. The archaic temple C has traces of darkened triglyphs and bed mould which look like the remains of applied charcoal black. Also the background of the well-known Gorgon metope in temple C shows traces of red. The same darkening of triglyphs and guttæ band is seen on the temple E. The large stone cyma, 31 ins. high, from Himera, when dug up in 1931 had its colours still fresh on a thin slip: they faded in a few hours, but not before Mr. R. Carta had carefully

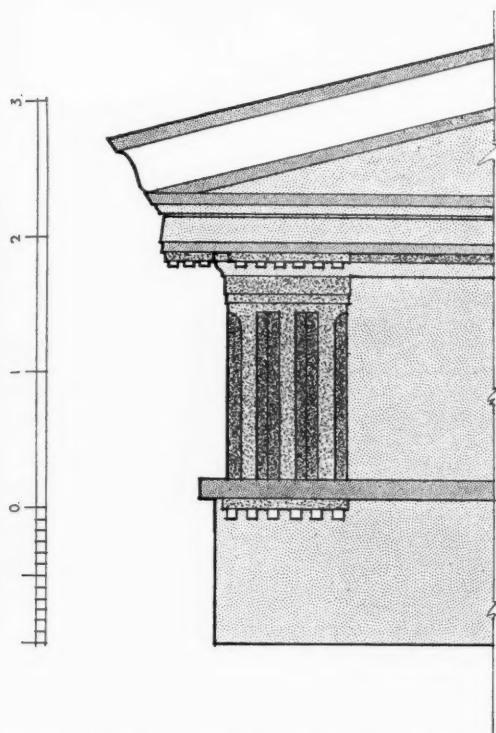


Fig. 3. Palermo Museum. Entablature of Selinus Temple B. The colours are represented as far as possible by the tints: tenia band, etc., red ochre; triglyphs, ultramarine, but grooves indigo; guttae and cyma, white; ochre wash on field

recorded them on a drawing which is now hung close to the fragments themselves. The colours are the common ultramarine blue and red-ochre, recently found again on the stoa fragments by the British School at Perachora, and by the Americans in the stoa of Zeus at Athens.

It must be noted that this polychromy is different artistically from the fired colours of the terra-cotta revetments which resemble black figure vase technique. Were they combined on the same building? or were there already in the fifth century B.C. two polychromatic types, of which this Himera temple is one, and the Selinus temples and Sicilian treasuries at Olympia, richly clad with terra-cotta, another? The former type, without terra-cotta revetments, has certainly fully emerged in the small temple B at Selinus, Hellenistic in date, of which a fine fragment of entablature survives in the Selinus room. It is illustrated in Fig. 3, where the blues and reds are shown as dot tints. An indigo occurs on the grooves of the triglyphs distinguishing them from the ultramarine face: note also the leaving an ochre

field on the broader members so as to permit of a real contrast. (This example has evidently been taken as a model by the 19th century architect of the Politeama Garibaldi and its porticoes, in the piazza Castelnovo.) This temple B entablature has frequently been measured up before, but published drawings do not show the noticeable setback of the face of the triglyphs behind the face of the lintel. This setting back was noticed by us in some Sicilian Doric examples, and calls for remark because, in the full music of the order, it introduces a distinctive modulation. It will be fully discussed when we come to Segesta, but it appears here also in the temple C entablature (see Fig. 2), although owing to extensive restoration of the lintel the case cannot be quoted as very reliable. Temple C is also interesting for its stronger end triglyph, 45 ins. wide (the same width as the end metope), as against $36\frac{1}{2}$ ins., the width of the other triglyphs. The end triglyph has also margins round its grooves. The effect is to emphasise strength at the angles of the building.

In the Palermo Museum, Mr. Holden put a straight-edge on the Himera gutter, and, with the eye of a mason, noticed, and pointed out to me, the setting out of the various faces from a point at low level, as shown on the drawing (Fig. 4). He remarked that a mason would work in much the same way to-day. Other examples were found later in the museum at Girgenti.

From Palermo there are now Cook's tours by car which include the principal sites, difficult to reach by train, and on 15 March we took this means of conveyance. The driver said "Good-bye" in a spectacular manner to his wife and children, and subsequently we often wondered whether he would see them again! He regarded the temples as mere delays, and was only happy driving at great speed up and down mountains. The car was a Lancia with a streak of lightning upon it

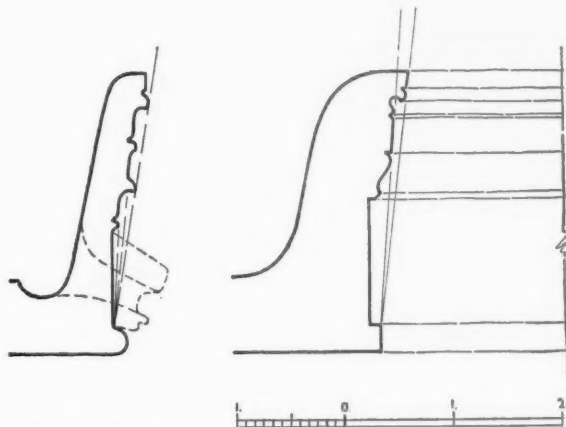


Fig. 4. Setting out of stone gutters. Himera on the right; Girgenti on the left

—not a vehicle suitable for contemplation—but yet it enabled us to see a great deal. The other occupants were an American lady, who sat beside the driver, a French bride who held a hat box in one hand and a bridegroom in the other, and a German lady who noticed nothing whatever (when shown Mount Etna on the fifth day she passed some slight remark), but who occasionally caused an event by losing her Baedeker. We skirted the Tyrrhenian seaboard along good roads, and then turned south, and, after passing Alcamo, saw high above us the Segesta temple on a little plateau in the hills. We soon reached it and were permitted a couple of hours.

So little is known about this temple archæologically, while, at the same time, it is artistically so complete, that an architect is free to consider it his special province. It is then not a "fragment," but a perfect work of his own art at its grandest. It does not survive; it exists, functions, convinces.

The temple is said to be about 430 B.C. in date and looks the same period as the Parthenon. It stands apart from the site of the Greek town, on a shoulder of the Monte Varvaro, and backed by a grassy ravine at the bottom of which is a *torrente* or seasonal stream. It is hexastyle and peripteral. The stylobate and columns, the entablature and pediment walls survive, but there is no trace to show that there was even a

cella wall* nor a roof over any part (Fig. 5). (There are no apertures for instance left anywhere for beams). But these elements are enough. The temple in its wild setting is complete: it illustrates perfectly the Greek use of architecture to sum up and crown a site. One seems to recognise that great sites are needed for great architecture, and that a race of builders will seek them out: in other words, that there is a topographical instinct behind Greek architecture (also see Sunium, Rhamnus, Athens). This is almost more noticeable inside than outside the Segesta temple. The result of the complete peristyle with no cella walls is to form a columned enclosure or temenos, now carpeted with a lawn, from which on four sides there are different views—a mountain, some green and purple foot-hills, rocks and precipices. And the columns stand between these things—revealing and concealing them. "I think," said Holden, "they built here just enough to give them what they liked."

Externally the curved stylobate added greatly to the completeness of effect (by comparison one noticed the lack of it in the Girgenti temples): but there was also another factor: triglyphs appeared to be set back slightly behind the face of the architrave below them, and metopes were also set back more than usual between the triglyphs. It is difficult to be quite sure of this owing to the broken and weathered faces, but the general effect is of a slight, very satisfying, stepping back of entablature parts above the loaded echinus. This is not shown by Hittorff and Zanth in their work already quoted. It is shown by Wilkins in his steel engraving of the Segesta entablature in his *Antiquities of Magna Graecia* (1807), but Mr. Carter points out that it is not shown in the corresponding drawing in the MSS. copy of Wilkins' work in the R.I.B.A. library. The slight reveals to the metopes give a bolder, more structural effect, while the tenia band and guttæ bands more clearly belong to the lintel. The bed-mould is deep, just projecting beyond the triglyphs and spanning across metopes. The pediment had a slightly deeper bed-mould. The tympanum face appeared to be recessed and to come in the same plane as the metopes. The column caps were highly finished, but the columns had been left unfluted.

The grace and strength of the design is matched by the triumph of its lasting, of its capacity to endure. As one looks and examines, the miracle becomes explained. It survives by sheer building craftsmanship, by technique. The stone, Giallo di Segesta, is a very fine grained limestone (which would probably polish like a Travertine), gone a russet colour away from the weather and a silver grey on exposed faces. The lintel stones are mitred at the four angles of the building. The drums of columns are ground to a contact joint:



Fig. 5. Segesta. Interior view C.H.

* Hittorff and Zanth, in their *Receuil des Monuments de Segeste et Selinonte*, 1870, show small fragments of foundations of cella walls in two positions. But Koldewey and Puchstein's plan, 1899 (in *Die griechischen Tempel in Unteritalien und Sicilien*) shows no such fragments

the curved markings due to rotation of drums are visible in some columns (where bits are broken away), but on other drums the markings are straight. The masons probably worked to an even face, then, if found necessary, ground them by rotation. The skill of Greek masons in working to an even face is shown even more by the frequent *contact vertical joints* between large heavy stones which could not have been rubbed together.

It was a grand elemental old thing, not surpassed by the Parthenon nor any building whatsoever. I could not help observing its effect on Mr. Holden, who became quietly excited as though listening to great music: whether the simplicity, the directness of design, or the superb masonry interested him the more, it would be difficult to say: builder spoke to builder. The day was wet and fine, like an April day in England, and a shepherd wearing a shawl and sheepskin trousers sat on a wall indifferent to the showers. Then the sun shone out on white clouds sailing behind the columns, on marigolds and pimpernels in the thick grass: the wet temple moved—"stay I have much more to show to you": but we could not stay, but had to turn our backs and drive off, and leave It, and not see It again.

But from this began some discussion, continued at different times, on Greek Doric and its Sicilian refinements, which may be summed up here from my own notes and from a letter from Mr. Holden sent to me in Athens.

- (i) The angle view of the Doric entablature must always have caused a certain optical overhang, and the splaying of the corner of the angle triglyph may have been done originally, in Holden's opinion, with the deliberate purpose of correcting this. It would also tend to correct the sharp contrast between the rapid curve of the upper part of the archaic column with the vertical lintel above it.
- (ii) When in the early 5th century B.C. the entablature was moved out over the echinus this overhang became more noticeable. In response the echinus itself was stiffened (became less of a cushion and more of a fist), but also there is evidence at Segesta and Selinus of the slight recessing of the triglyph frieze, above referred to, probably with the same object in view, and perhaps a continuation of the same design process. In Holden's sketch (Fig. 6) he shows in A the triglyph coming vertical over lintel and without splayed angle, giving effect of entablature leaning outward: in B triglyph comes behind face of lintel, and angle is splayed, thus echoing diminution of column and giving

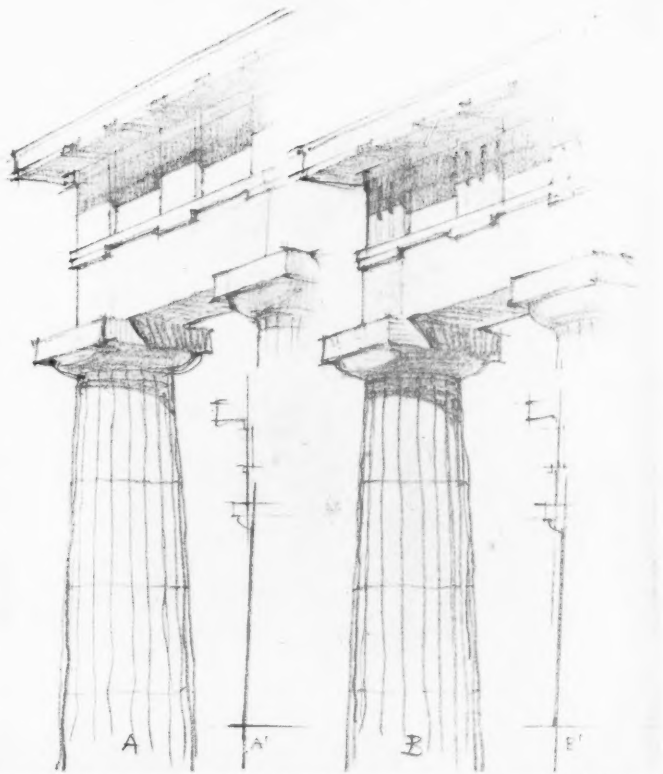


Fig. 6. A study by Charles Holden showing the effect of recessed triglyphs and splayed angle

- stability and repose on the very important angle view. For lack of repose see angle view of Propylæa at Athens (Fig. 6A).
- (iii) The slight thickening of angle triglyphs and increased recessing of metopes behind triglyphs, gives a light and shade lacking in the Girgenti and Athens temples, where the metopes are shallower.
- (iv) The tenia band tends to be stronger than in Attic examples, and belongs artistically to the lintel (as well as structurally). Vases depicting well-houses sometimes show *guttæ* regularly under metope openings instead of under triglyphs. This and other freedoms are permissible provided the designer knows what he is doing.
- (v) The necking band under the echinus impressed vase painters, who very frequently showed it, and it seems a highly characteristic note required for the full orchestration of the order even if it is only painted on. The darkening of triglyphs with blue or charcoal black is also necessary to



Fig. 6a. Angle of the Propylea, Athens, showing the extreme overhang of the entablature

the full order. The influence of the above points on design are illustrated in drawing (Fig. 7). They are interesting also as suggesting a Sicilian Doric school, a possible parallel to the Sicilian schools in coins, sculpture, and terra-cottas, recently analysed by Professor Ashmole in his British Academy lecture just published in pamphlet form under the title "Late Archaic and Early Classical Greek Sculpture in Sicily and South Italy."

A long and hilly drive through Calatafimi and over the watershed brought us down to Castelvetro and to the African sea. Selinonte, on the shore, is soon

reached. But only an hour is allowed. Quite useless. One has time only to note a few things. The acropolis looks like a playground of giants (frontispiece) who have negligently hurled drums and monoliths at each other, and then in sport built up again a few columns. The stone, stripped of its plaster coat, is deeply pitted and sand-blasted. One notes the large *tenia* band on temple C, and also the grandeur of the wide archaic aisles. These temples had their long flanks to the sea. In the restorations by Hulot and Fougères* they stand in their full ornament with broad brows of painted terra-cotta one behind another and screened by the Greek shipping. What a sight was this city once from the sea to Tyrian traders, and ships from Corinth or Corcyra. Now all destroyed by Hannibal Gisko. One could spend here a life-time; and it has more modern legends.† But the car is blowing its horn: the American lady, the German lady, the French bride and bridegroom are waiting: one has not seen the fortification, nor the quarries, nor the Eastern hill, but one must go or Girgenti will not be reached in time for dinner!

On through Sciacca and Ribera, with the sea on our right. The roads are much used by peasants with Sicilian carts, or riding mules and donkeys. Inland there is a spectacular mountainous country like a scene in an opera. By the roadside the corn is already 6 ins. high in March. The cactus hedges offer young leaves in winter which are eaten by men and goats, and at this season they are cut into bits and stuck in the ground to protect seedlings. There are crops of beans, also cork trees, olives, and orange and lemon groves beautiful to behold. There are no villages. The peasants all live in towns consisting of as many stables and barns as houses: the side streets are filled with hens, foals, calves tied to their mothers, and with children: there are herds of goats with twisted horns. In the morning the people ride out along the roads long distances to their plots, often high up on the hills, and in the evening ride back in little cavalcades wrapt in their cloaks. Sometimes a whole town is abandoned for lack of water, and a new one built instead. Such a deserted town one sees on a hill, roofless, and looking like a queer rock formation. Cultivation was everywhere—evidence of an age-long ubiquitous peasant labour—but water nowhere: even in March the *torrenti* appeared already dried up.

The modern town of Girgenti survives as a fragment of the Greek city in the north-west corner of the ancient walled site of Acragas. Far below it, along the south or acropolis wall, are ranged the great temples—Juno Lacinia in the south-east bastion, then in order, going west, Concord, Hercules, Jupiter Olympus, Castor and Pollux, and the archaic fragment known as Vulcan. Outside the walls to the south is the so-called Temple of

* See R.I.B.A. JOURNAL Vol. XV. 3rd. Series (1908) p. 513

† H. C. Bradshaw bathed here and the goddess sent a black snake to guard his clothes. (*Myths and Mons. of the R.I.B.A.*)

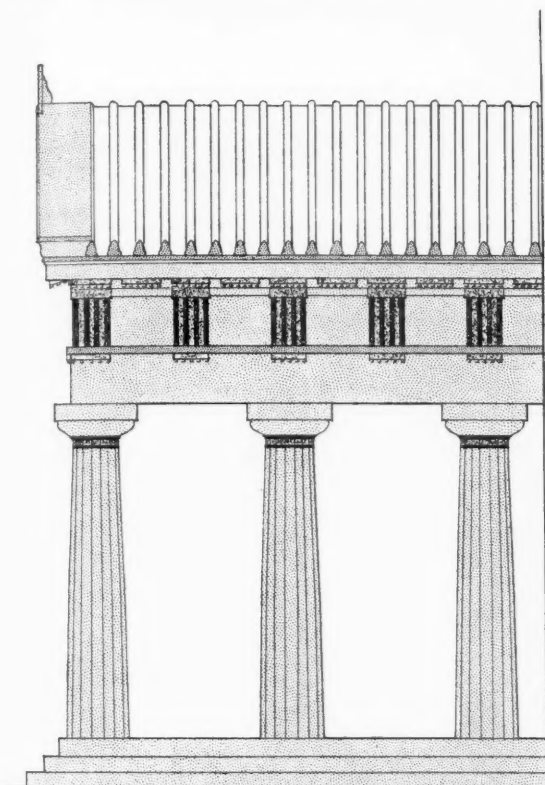


Fig. 7. Study by H. Bagenal of the Doric Order with Sicilian modifications. [Colours—Triglyphs blue or charcoal black; tenia, antefixae, etc., red ochre; necking of columns blue; field ochre.]

Æsculapius. The scenery is beautiful and theatrical—consisting of wide green dales, sloping down to the sea between escarpments, well wooded with olive trees and orchards. Pindar described Acragas as the most beautiful city of mortals.

Both the Juno and Concord are hexastyle temples of the 5th century without curvature, in a brownish shell-limestone on which the plaster slip is still in part adhering. The Juno temple (headpiece) has a fine podium supporting the stylobate steps, and is very graceful upon its corner bastion, the northern columns still bearing their lintel stones: the value of the podium is clearly shown in the photograph. To the east are the remains of the sacrificial altar extending the width of the temple.

The temple of Concord is well known and well preserved. It was for many centuries a church, converted by cutting arches in the cella walls (Fig. 10) and by building screens between the columns of the peristyle. The building shows the unsatisfactory effect

of the very shallow metope panels. In both the Juno and the Concord the flutes are narrow, 20 flutes to a column, and shallow: (later on in Attica I noted the wide flutes of Sunium and the improvement in scale which they give). The Concord temple is noted for its two staircases, and for its opening in the gable walls of the cella above the entablature. The Girgenti stone has not been used for carving except in the case of the telamones of the great Jupiter temple.

The temple of Hercules, earlier in date than the two last, is a fragment only. Eight columns have recently been re-erected by Captain Hardcastle, an English archaeologist. The drums are remarkable for being apparently in contact over their whole area and not cut back at margins or centre. The plaster slip, well seen on the columns, is thought to consist of shells and marble dust ground together. A portion of the cyma of this temple can be seen in the Girgenti Museum. Of the temple of Castor and Pollux there stand four columns and an angle of the entablature: the cornice is later in date. Some red still remains on the tenia band and much of the plaster slip. Note that the metopes are all but flush with the triglyphs. The little temple of Æsculapius, believed to have contained the statue of Apollo by Myron, had four columns in antis and has remains of beautiful engaged half columns on the rear cella wall: here the base has curvature: this building has a very thin mortar joint.

Between the temples of Hercules and Castor and Pollux there lie the remains of the colossal temple known as Jupiter Olympus. Its restoration presents some pretty problems in design. The plan shows three long aisles equal in width, a surrounding wall with engaged half columns and a centre column on the east and west ends. It does not show where the entrance was. We know that the roof was never built; but it must have been designed. On the site lie the remains of the telamones, huge figures obviously caryatids, and playing an important part in the construction; also there are remains of pilasters or piers. How was the roof intended? Where did the telamones go? Where was the entrance? How was the temple lit? Where was the cult statue? The two schools of restorers differ first and chiefly as to whether the telamones were inside or outside. Puchstein puts them outside, standing on a ledge between the half-columns to support the lintel at half-bay points. Durm puts them inside, backing into piers in an ingenious attempt to open up the side aisles, for the sake of light, into the centre aisle. All agree that the centre aisle was a hypæthral space in whole or in part. In 1932 Professor Pace and S. R. Pierce reviewed the problems and worked on the site. They showed there was no ledge to take Puchstein's telamones, and pointed out that telamones outside between all half-columns made a proper entrance doorway difficult. Therefore they followed Durm in placing them inside, down the centre hypæthral aisle, but carried the screen wall

right up (Durm stopped it half way as a breasting), and lit the aisles by small windows. They also pointed out that pediments on so huge a building, over a centre column, and having nothing behind them on the centre aisle, were improbable and unnecessary, and that the roofing of the aisles could better slope downwards instead of upwards and could return round the west portion to give a roofed naos for the god. Then externally the building would appear flat-roofed with a cornice running all round, somewhat resembling the so-called basilica at Paestum. The external walls looked obviously much better without the telamones (though as archæologists they did not advance that reason), and the entrance doors could come at the end bays of east front giving on to aisles—without having caryatids hanging above them. The sculptures of the gods and giants mentioned by Diodorus they put into metopes on the east front, since they had no pediment, and the words of Diodorus, they held, did not necessarily imply pediments. (See *Monumenti Antichi*, Vol. XXVIII, 1922). Pierce also made a study, unpublished, of the great altar at the east end.

Then, in 1926, Professor Pirro Marconi excavated and found further evidence for the external position of the telamones. A stone resembling a great bracket piece was excavated, and accordingly the figures were

restored on brackets, and only on the flanks of the temple. But by this means a ledge or set-back was avoided. Also he found traces of a door in the centre bay of the south side. He restores the pediment and slopes the roof up from outer to inner walls, presumably having a shrine at each end of the centre aisle, and having the hypæthral space in its centre part. The temple must have stood 80 ft. high at least to the cornice. A sketch of Professor Marconi's restoration is given in Fig. 11. Much excavation and study remains to be done. No sculpture suitable for a pediment so huge has yet been found, but in 1922 Signor Pace and S. R. Pierce ascribed the tail of a lion, found by them, to a possible metope.

From Girgenti we started early in the morning with Enna and Syracuse in view, but not knowing how or by what roads we were to get there, and, in fact, some 150 miles of dreadful motoring lay in front of us. The car turned inland and made for the heart of Sicily. The driver hooted and leaped forward when he saw a peaceful train of mules ahead, like a carnivore who seeks to hypnotise his prey by a display of ferocity: one remembered with difficulty that it was we who represented "civilisation." Often the stately peasants were unmoved: once an ass-cart began slowly to pull across our bows; no hooting availed; a moment of terror



Fig. 10. Girgenti. Temple of Concord, interior view

ensued, one climbed up the window pane, but the driver was able to pull up at the tail of the ass-cart. (Note: The Sicilians believe that evil comes from behind, and carts have a carved face at the back for keeping off the evil eye.) We passed through Serradifalco, Caltanissetta, towns balconied and crowded with cheerful people; towns with some shops, a forge, a pump, a baroque church. By degrees the country grew wilder and more serrated, the road extending ahead across bare inter-spaces between jagged hills. One noticed in the distance a mountain crowned with what appeared some kind of basalt: surely that was not the road going up it into the mists. But it was. Our driver set the car at the mountain. We went up and up, and when we got very high we found a considerable town filled with men in blue cloaks, chatting and looking out from their parapet over the roof of the world. This was Enna.* But it, too, was wrapt in a cloak: it did not reveal itself. One learns that it is the oldest of strongholds, going back to the Sikels before the Greeks. It and its trenchant hills and once fertile valleys gave rise to a cult which informed Greek and thence all Classic European thought, the cult of Demeter-Kora, of the Earth goddess and her daughter:—

"Of Proserpine, among whose crowned hair
Are flowers, first open'd on Sicilian air."

Here once were fields so luxuriant that hounds lost their quarry in the scent of flowers. But now the sulphur mining has destroyed them. Pluto has not only carried her off, but has invaded the upper earth. His cult has spread. For a moment beside Lake Pergusa it is possible to think the myth once more.

"She knew each lily white which Enna yields,
Each rose with blushing face.

She loved the Dorian pipe, the Dorian strain—"†

Possible to feel the source of something that still attracts and compels; something needful to man's picture of his world, that poets will have: that sculptors will have: the mother and daughter inexhaustible and beautiful—Earth with a thousand summers in her breast. And though nothing remains of the two famous temples at Enna, once the centre of the cult, Proserpine is always reappearing in verse and Demeter has recently been given a better position by Mr. Forsdyke in the British Museum.

Lake Pergusa is just south of Enna and is passed on the road to Caltagirone. The sulphur mines have despoiled all this country. But in time, as we travel, the crops reappear. Ceres was worshipped in Sicily because it has always been a great corn-growing country. One sees once more high up above the hair-

* Its name has changed—it was originally Enna or Henna, then the Arabs called it Kasr Yani, which became Castrogiovanni in the middle ages, now it is Enna again.

† Matthew Arnold's *Thyrsis*.

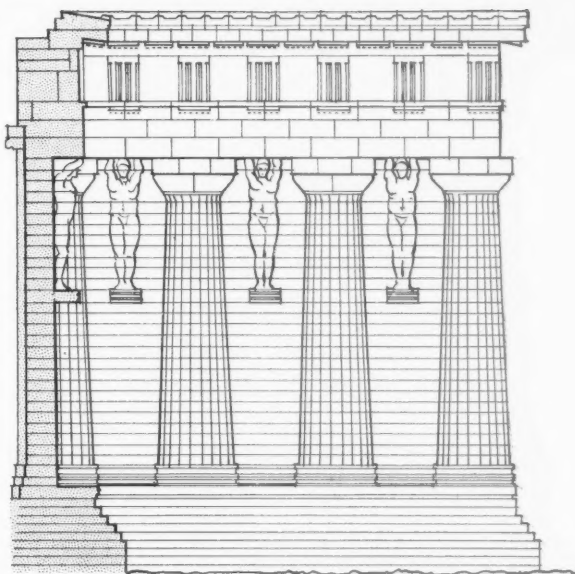


Fig. 11. Girgenti. Temple of Jupiter Olympus. Sketch of Professor Marconi's restoration

pin bend in the road, on the topmost patch of soil, the peasant still plying his hoe. The car stopped for a moment on some desolate anonymous hill in the mist: nothing to be seen but hill after hill covered with row after row. But the soil is not theirs: the leases are short-term leases: they only dig, sow, hoe, reap, dig again: while Sikels, Greeks, Carthaginians, Romans, Arabs, Normans, Spanish, Italians, pass over them. We hurriedly got back into the car, out of reach of such impressions, and rushed on to Syracuse.

Syracuse is now a thriving, populous, Italian town. Its Greek historical periods, from the time of Gelon to the death of Archimedes by the hand of a Roman soldier in 212 B.C., are too interesting and too full to attempt to note here. We found ourselves at the Villa Politi—a fine country house standing on the edge of the quarries known as the Latomia Cappuccini. These quarries, and others even larger—the St. Venera and the del Paradiso—are most impressive, and give an idea of the scale of Greek civic building: they are the concave of the city. Craighleith, outside Edinburgh, forming two lakes, is the only quarry system equally impressive known to me. The Latomia at Syracuse are now overgrown, and have become beautiful wildernesses where orange trees and geraniums flourish and siskins sing in the cool: tall pines only just reach the ground level at top. Slaves and prisoners of war were employed in them: the face of the rock was cut to a convex leaning curve like the profile of a huge echinus.

Here in the Cappucine quarries the Athenian prisoners were confined—men as sensitive as ourselves—and had plenty of time to recall the speeches of Pericles and Alcibiades on a western empire for Athens, before they were sold as slaves. But some who could recite the choruses of Euripides to their guards were set free. At the end of the Paradiso quarry there occurs a grotto known as the Ear of Dionysius, said to have the acoustic effect of a huge ear trumpet. The acoustic scientist, W. C. Sabine, paid a special visit to Sicily to investigate this, and also the "whispering gallery" at the cathedral of Girgenti, and found both disappointing.

The temple of Athena, now the Duomo, has been partly preserved by conversion into a Christian church in the same manner as the Concord temple at Girgenti: that is to say, openings have been cut in the cella walls and the peristyle filled, between columns, with screen walls. From the piazza the temple is further disguised by a sufficiently baroque west front. The original pro-naos was removed to make room for the apse: but on the flanks there are the Doric columns with architrave and triglyphs.



Fig. 12. Girgenti. The Temple of Athena

Inside the building some of the fluted columns can be seen (Fig. 12): compare them to the baptised columns surviving in the Christian basilicas in Rome: these mighty pagans do not look as if they had yet been converted.

The museum at Syracuse (opposite the Duomo) is second only to Palermo in interest. Here can be studied Greek terra-cotta revetments with their grand patterns: here are gorgons, very ferocious and polychromatic, beautiful cymas and altar ornaments, and a horseman ridge-ornament from Camarina of the 6th century. Much could be learned from all these because of the fragments of colour remaining upon them. There is also the beautiful Ionic pilaster cap from Megara Hyblea. Here the student of caryatids will find many useful examples. The vases are famous: one wanders among them bemused by their compositions, by the great red-figured craters alive with fate. And in sculpture there is the grace-

ful Landolina venus of the modest school. But who is this? Here is the special goddess of architects—Athena Hygeia herself with the snakes of wisdom encircling her wrist.



ARCHITECTURAL EDUCATION

REPORT OF THE INFORMAL MEETING HELD AT THE R.I.B.A. ON TUESDAY, 19 MAY 1936

MR. JOHN SUMMERSON [A.] IN THE CHAIR

The Chairman opened the meeting by giving a resumé of the recent discussions which had been started by the Informal Meeting last December, and continued by correspondence in the professional press, by Mr. Ansell's paper to the R.I.B.A. in March, and by subsequent correspondence in this Journal. Various points raised by those who had taken part in the discussions were quoted, and reference was made to the questionnaire prepared by the Architects' and Technicians' Organisation in an attempt to find out the methods of education in use at the various schools in Great Britain.

Among the points referred to by Mr. Summermon were the following:—

The "barrier of isolation" between students in different years; the responsibility of students' committees; the extent to which the student was "at the mercy of the individual teacher"; the problem of co-ordinating the work of students of different abilities and enthusiasms. Mr. Martin Briggs questions: Do you want more science? Do you want less history? What about sociological study? What about examinations?

Mr. F. L. STURROCK [S.] quoted Mr. Ansell's remark: "I am waiting for one of our modernists to discover stone and find, to his surprise, that so old-fashioned a material may be used in providing houses as satisfying to the newer æsthetic sense of to-day as any of the reinforced concrete buildings." He thought that a wrong approach to the question, because stone had very limited structural qualities.

He suggested that the teaching of brick and timber construction was admirably dealt with in the traditional manner, but that teaching in concrete and steel was sketchy.

He thought that lectures, especially on construction, should be given to small groups of students, and that there should be opportunities for free discussion.

He did not agree with Mr. Ansell that if a student was given a loggia in an Italian garden to design it would enable him later to design a better tramway shelter.

He was sorry that Mr. Ansell said so little about the training of external students, but his suggestion of the Beaux-Arts method of issuing programmes to external students was a good one.

There seemed to be a wide divergence of opinion with regard to the type of programmes most suitable in the recognised schools, some holding that a study of the classical buildings of the past would equip a man with sufficient scholarship to muddle through present-day requirements, while others were more realistic.

Mr. L. K. WATSON [A.] referred particularly to the "left-overs," the external students, because he felt that they were not getting quite a fair deal and received no encouragement.

With regard to pupils, he knew of one case where an architect made the best part of his income from taking articulated pupils and had not enough work to keep them going. To cure that sort of thing, he thought that the R.I.B.A. should keep a register of all articulated pupils, and articles which were signed should not be valid unless approved by the R.I.B.A. With the aid of the local societies it should be possible to keep track

of what was going on, and if a man took too many pupils it could soon be discovered and stopped.

He suggested that the R.I.B.A. should keep in touch with students who, having passed the Intermediate, had then left school, and should encourage them to take the Final. In the past they could have come in as Licentiates and eventually become Fellows, but that door to the profession had now been closed; a man could no longer become a Licentiate without being a registered architect, which involved passing a recognised examination. In another ten years, therefore, there would be a great many people who were skilful architects, but who had not taken their examination, and who would be outside the R.I.B.A. and outside registration. He suggested that there should be fewer testimonies of study.

He suggested that there should be alternatives in the Final; it might be possible to take civic design and town-planning as an alternative to becoming an advanced constructional man. This was done in bodies similar to ours; the Chartered Surveyors' Institution, for example, had three alternative branches in which the examination might be taken—land agency, quantities and auctioneering. The Town Planning Institute allowed a surveyor to concentrate on surveying, an architect on architecture, and so on.

Miss M. J. BLANCO-WHITE [S.] said she was convener of the Students' Sub-committee of the Junior Members' Committee, but that she could not speak formally for that sub-committee, because they had not yet completed their report to the Junior Members' Committee. The research which they were undertaking fell into two halves. The first was to inquire into present educational facilities. She believed about half those who passed the Final did not come from recognised schools. It was important to ensure that all architects were adequately educated, and if, as Mr. Ansell had suggested, the whole five-year course was necessary in a school, then anybody who did not take a five-year course was not educated to be an architect. It seemed essential that the R.I.B.A. should fix a minimum standard of general education. At present some architects left school at 15, and those were the very ones who afterwards had no time to obtain further general education. Whether it was possible for all architects to have a good general education and also an adequate education in architecture is a political and not a technical question.

Mr. Ansell, she suggested, took up this political question and in his letter in the R.I.B.A. JOURNAL had advanced a political opinion that he thought it impossible for all architects to have a school education. She thought that as an alternative to rearmament we might provide an adequate education for architects. If the R.I.B.A. was not political, all it could do was to establish a standard, and say it would like to have that standard led up to. She claimed that Mr. Ansell had suggested that it was not relevant to find out what were the building and social requirements of to-day, and that the technical facilities were already adequately dealt with. She thought that with regard to technique Mr. Ansell was completely out of date. He had suggested that there need be no general education in the school course. He had then suggested that the first two or three years of the school course

should be historical; during that time the general education would be forgotten. In the third year, when the mathematics learnt at school had been forgotten, the student would begin to learn about concrete, without having enough mathematics to deal with it. Were students leaving the school to be more at home with modern technique or with Greek or Mediaeval technique? She thought it essential that such things as mass production, standardisation, power production and modern materials should be the things with which the student was naturally at home when he left school. Industrial films, visits to factories and to jobs should be made part of the ordinary training of the student, instead of being something exciting, weird and mystical, as she thought they were at present.

Mr. J. C. RATCLIFF [S.] suggested that the student was quite rightly idealistic.

He agreed with Miss Blanco-White that the student must be aware of everything that went on around him. He must not take anything for granted, or accept everything that he was told without question. He had to co-ordinate the whole mass of information, not only technical, but general, with regard to what had gone before him. He had then to try to make some estimate of what was going to happen, so that by the time that he reached maturity he would be to some extent prepared for it.

He believed that every student should have some definite grounding in the facts of the physical and mental human being. At present nothing was taught about the human beings for whom buildings were planned.

He thought that history as taught was ridiculous. Instead of being represented as a panorama of styles, it should be taught more as a history of society, of different cultures; architecture should not be separated from the other arts—music, painting, and so on. He also thought that there ought to be definite education in political economy. Some knowledge of common law was needed, some knowledge of finance and business methods, and some knowledge of administrative systems and governments, and some knowledge of psychology, since all involved the responsibility of the architect to society.

As far as he could see, there was as yet no course which dealt with the question of *structures*. There were many courses dealing with construction in steel and concrete, but that was not what he meant; every shape had a constructional value, and one had to learn the properties of various structures when used with different materials and under different conditions. He believed that the architect should have structural imagination, and if necessary even be able to invent a new type of structure to answer a given problem.

Mr. PATRICK WILSON [A.] quoted a statement made by Mr. H. M. Fletcher in the discussion after Mr. Ansell's paper, and a statement by Dean Hudnut which he interpreted to mean that you could get "two kicks" out of being an architect, one through knowing your job, knowing what to specify, what it would do, and how it would stand up in use, and the other knowing what your job was doing in relation to the social structure, how you fitted in; and that was more important than the mere erection of a building.

The prize held up to the students was the lure of private practice. People were apt to be emotional about being on their own, even though it meant starvation. Mr. Fletcher had said that what the architect had to do was to design and build; but could we never get beyond that? Were we always to be architectural slot machines, into which the client

put the fee, and out of which he drew the design and a certain amount of supervision?

The "social" side of architecture did not mean just working-class housing: it was civics or positive planning; it was a form of State organisation. If we ask why the architect is here on sufferance we are in the midst of political or at any rate economic questions. Private ownership of land was the one stumbling block to getting any town-planning done. That, Mr. Wilson suggested, might be exaggerated, but it was the way he felt about things. The private profit motive was making so-called commercial architecture what it was. It was littering England with suburban cancers on which future generations would have to operate with blasting powder. The money-mania of many people was reflected almost as much in their shop-fronts as in their faces. It was said that architects were specialists. We ploughed our furrow so deep that we could not see over the edges. Outside our tolerably comfortable grooves and professional ruts everything was not so self-assured. For economic and political reasons the architect was not allowed to do all he could do. There would have to be a change in the social outlook of clients, and of architects in particular. He was not suggesting that we should add Marx or Mosley to the school syllabuses, but people were more interested in their private practices than in how they interlocked with the other services and professions which ran the country. Stimulus was required from within the schools; it should not be left to the students' spare time, as had been suggested.

Mr. RAYMOND WALKER, who spoke as a guest, suggested that if architects studied industrial problems they would find that they could put up to industrialists ideas which would help them to save money, to increase production, and to give better conditions to the workers, and if they did that they would be taken up by the industrialists. There was work for a large number of architects who were willing to take up a direct line of industrial research.

PROFESSOR W. G. HOLFORD [A.], both a student and a teacher, agreed with much that Miss Blanco-White had said. It was obvious that the schools had come to stay, and were going to grow. It was our job to make them better, to consider their enlargement—as a whole, not individually—and their improvement.

With regard to their enlargement, he agreed that a wise Government would probably before now have put down one or perhaps 0.5 per cent. of that part of the Budget allocated to defence for the education of architects. We had no power as architects to influence them, but he was sure that sooner or later the Government would have to give a grant to architectural education.

He did not know that any of the schools said that they could prepare architects in five years. When the schools had finished with them the students were just beginning to be ready to learn their job.

With regard to making training available to more people, Mr. Holford suggested that there was need for co-operation in the profession itself. On the one hand, there were a few die-hards who said that no man brought up in a school was any use; on the other, there were those who said that the school was not providing people with the proper social outlook to enable them to be useful members of society afterwards. These discussions might be all very well amongst themselves, but they muddled the public.

He saw no difficulty in the teaching of the general principles of structures in the school. At Liverpool they had a practising

engineer on the staff. The real difficulty was that it was almost impossible for a front rank practising engineer or architect to devote much time to teaching, and it was not possible for him to give detailed instruction to small groups.

Even now students complained that they had no time for quiet reading, but if we were to fill up their time with these other things that had been suggested, we should want a fifteen-year course!

History should be taught with two aspects, constructional and social. The problem was simple in a fundamental way; there were certain technical needs, and people wanted certain buildings. If you could trace from the beginning the way in which people had built to satisfy their needs, you were giving a definite training in a social subject to students.

A great deal, he said, was talked about modern architecture in the schools; it was the main source of enthusiasm in teaching, but a great deal of harm was done by people who had definitely set their face against it and turned enthusiasm for it, blind though it might be, into some other channel. We had to use that enthusiasm which people naturally feel for a fine building of their own time in the right direction, and not stunt it.

Professor H. S. GOODHART-RENDEL [F.] said that he was largely in agreement with the last speaker; fifteen years would be an excessive time to take out of the lives of most people, but it would not be long enough to learn the curriculum which had already been outlined in this room.

He felt strongly that the sociological side had a much more intimate claim on architects now than ever before. It was worth examining closely what people wanted if you wished to make a living, and, at the lowest, giving it to them in the way least poisonous to themselves, and, at the highest, giving them a hunger for something better.

He also suggested that a good deal of dissatisfaction was due to a certain inflexibility which could be traced to the way in which the schools had grown. There had been a feeling that the students did not get sufficiently into touch with the teachers, and that they were grouped into too large units without much feeling of personality about them; there had not been the atmosphere of laboratory work, in which you could always go and say: "How have I got this wrong?" it had been necessary to wait until someone was able to attend to you, and you might die while you were waiting.

He also spoke of the advantages of the system of education in small groups. It was difficult under the present system for students to help one another to the extent that was desirable and that used to be possible.

It was important to look at the demand before deciding what to supply, and to make a living before being a reformer. If you could do both, so much the better. Secondly, all architectural teaching had to take on a more intimate and flexible turn than it had had hitherto.

Mr. L. W. THORNTON WHITE [A.], who spoke as a teacher, but also as an architect trained on the pupillage system, who followed it by a course in an architectural school, said that the principal thing that he got out of his eight years' training was as much an interest in architectural education as an interest in architecture.

He stressed that the students of to-day, in most schools of which he had personal knowledge, were much more in contact with the masters as personalities than they had ever been before, at any rate since the war. In the A.A. School they were, as he believed the students realised, doing everything

they could to secure closer and more sympathetic contact between the masters and the students.

He thoroughly agreed that the sociological and economic aspects of living should have some place in an architectural school. He completely disagreed with Mr. Sturrock, who said that brick and timber were adequately dealt with in the schools to-day. Brick, stone and timber were dealt with on unscientific and empirical lines, while concrete and steel exclusively were tackled from a mathematical and scientific standpoint. We should get no real balance in the student's mind between the usefulness of, say, brick—and that of, say, concrete and steel until we had a scientific approach to the teaching of construction which included all materials on the same basis right from the beginning of the school career. Finally Mr. Thornton White said that it was nonsense to suppose that in the first two or three years of a school course attention should be concentrated on traditional methods of using traditional materials, while in the last part of the course steel and concrete should be dealt with.

Mr. A. W. COX [S.] referred to the A.T.O. inquiry. The main thing that this showed us was the appalling diversity of approach to architectural education in this country. I seemed possible, within the framework of the R.I.B.A. examinations, to approach architecture in any way one liked. In one school the students spent the whole of their first year in studying and rendering classical compositions. In other schools there was a more sensible approach to the subject through the building problems of the day.

What was vitally necessary was to set standards for an educational course, both for the subjects taught and the methods of teaching. That was the object of the A.T.O. inquiry, but with the formation of the R.I.B.A. sub-committee the A.T.O. had handed over the results of its inquiry, and had decided to support the new committee in every way possible. He urged that the sub-committee be given every facility for conducting its inquiry, and that its final recommendations be given full consideration.

Mr. R. T. F. SKINNER [A.] asked what the sub-committee was going to do, and particularly whether its report was going to be considered by the Board of Architectural Education, and whether it would finally be published.

He suggested that it would be valuable if a series of discussions could be arranged on the particular subjects which had been raised here, such as the place of the teaching of engineering in architectural schools and its relation to architectural design, how to provide facilities for students who could not afford to go to the schools, and how students in the schools could obtain practical building experience. All we could do here was to raise the problems. It would be a very good opportunity, whilst this sub-committee was doing its work, to organise a series of meetings at which these subjects could be discussed. It would be a good thing to feel that some definite steps were being taken to see that some result emerged.

Mr. W. GOULBURN LOVELL [L.] said that many years ago they had established in Well's Mews the first Beaux-Arts atelier over here. They had now in the South-Eastern area five of these ateliers, where the senior students, in addition to the master and tutor, helped the juniors on the Beaux-Arts method. He suggested that this method, which had proved very satisfactory, might be taken up in the provinces where schools such as that at Liverpool are not available.

Those who had not the good fortune to attend a recognised school were as a rule articulated to architects, and they generally

passed the Intermediate in three years and the Final in five or six years.

Mr. R. L. DAVIES [S.] summarised what were in his opinion the views of the majority of the rapidly increasing number of students who had thought about the question of their education. The criticisms which they made of the existing systems applied in a small degree only to one or two of the most advanced, but to a much larger extent to the majority of schools.

From the A.T.O. report it was plain that the teaching of technique in the schools at present was not adequate. The question of realism in programmes was an extremely serious matter. There were schools which, through their fortunate relation to schools of technology in universities, had a high standard of teaching in technique; at the same time, however, the programmes on which the students were asked to use the technique which they had been taught were out of date and fantastic.

He suggested that it was necessary for all students to work on building jobs as an integral part of the course. It was far more useful for them to obtain experience of that kind than to go into a drawing office for three or four months. When they had left school they would probably spend many years in a drawing office, but their chance at school to obtain a first-hand knowledge of building methods would not be repeated for some time. One of the most important ways in which we could improve the schools was by cultivating contacts and discussion between students and staffs. In his own school the students' committee was in touch with the staff, and discussed with them questions relating to education in the school. By this system they had managed to experiment in a number of ways. They had introduced a collective system of working in the lower years, by which small groups of three students worked collectively. This enabled a much more detailed solution to be worked out than a single student could undertake, and it trained the student in collective working, which he was bound to meet with in practice, and to express himself clearly.

Mr. E. J. HAYNES (Secretary, Board of Architectural Education) apologised to the meeting for the unavoidable absence of Mr. Darcy Braddell. He stated that the Board of Architectural Education had two broad functions: to deal with the schools and to deal with the external examinations, the examinations of the R.I.B.A. itself. In its dealings with the schools it tried in the guidance it gave to be as elastic as possible, and encouraged each school to develop on its own lines. With regard to the R.I.B.A. examinations, the Board was always ready to consider very seriously any suggestions from students and members affecting the examination syllabus. Mr. Skinner had referred to the report of the sub-committee. Mr. Haynes said that he had had one or two talks with Mr. Block about that report, and had given him some information to assist him in compiling it. He was sure that when it was ready it would be given most earnest consideration by the appropriate committee of the Board.

An EXTERNAL STUDENT (name not given) said that external students having taken the Intermediate had difficulty in getting through the testimonies of study, and making themselves capable of sitting for the Final. They had to put in full time in the office to earn a salary to keep them going, and they had to do their testimonies of study at night. He suggested that the R.I.B.A. might cut down the four testimonies to two, together with the working drawings of one; but the standard might be made a little higher and less leniency

be shown. He also suggested that civic design might be offered as an alternative subject.

Major H. C. CORLETTE [F.] approved in general of the last speaker's remarks with regard to the testimonies of study. We worried our minds, he suggested, about too many things; architectural education should be simplified to give students time to think, read, and do their work.

Mr. W. H. ANSELL [F.] expressed his gratitude to the committee which had organised this informal meeting, and provided what they ought to have had on the night of his paper, but, he suggested, that had discussion taken place then it would not have been nearly so full and free as the discussion to-night.

Much talk about architectural education was of comparatively little use until it became crystallised into action, which was why he had used all his influence to get the heads of schools and others engaged in teaching there that night.

His real point with reference to the use of stone, to which Mr. Sturrock had referred, was that there should not be a classification which said that reinforced concrete was modern, whilst stone was not. He refused to divide materials in that way. There was no reason why the approach to an old material should not be as scientific as the approach to a fashionable material of the day. He believed in a scientific approach to all these things, just as one finds a scientific approach in medical research. The "bedside manner" was an example of an unscientific way of treating a subject, though it did a certain amount of good. Much of the architectural approach to design to-day was rather in the "bedside manner" of the general practitioner; it was not scientific. In many cases the traditional way of using a material was scientific; it was not entirely rule of thumb. It might not have been based on a right appreciation of mathematical formulae, but the treatment was in its nature scientific. But now we had other methods of testing, and we were wrong if we did not use them. Every school had to train its students in the scientific approach. It was not a matter merely of one subject or another, of mathematics or microscopic examination; it was a matter of our mental approach to the subject. We often found that some man who was quite unscientific had produced results which we wished we could have produced ourselves, but that did not relieve us of the need for making a scientific approach: we had to remember that something else was necessary.

Miss Blanco-White, Mr. Ansell suggested, had slightly misrepresented him, then, with a great deal of energy, had demolished the slightly distorted picture which she had set up. They were not at odds in this matter. Sociological questions were of importance to the architect, but the question was when they should be studied, and what time should be given to them; should time be given in the school, or should it be taken outside? Architects had always been noted for their interest in sociological problems. In his own student days there was a little group in London to which he had had the honour to belong which had tackled the reform of a most corrupt inner London borough, with very far-reaching results. Even though the subject was not taught in a school, they had felt the importance of the architect taking a lively interest in sociological matters. His point—and it was, he suggested, the only point of disagreement between them—was that it was the business of the school to teach *architecture*, and that it had no time available for these other matters; but the student would be lacking if he or she took no interest in them. In the

time available the school could not give any serious amount of time to the study of sociological questions in the way that had been indicated.

Mr. Wilson's remarks, he said, were excellent. Of course, to design in order to get an income was something that we all had to do, and he thought it was a laudable object. Wealthy parents were not too common, in spite of the existence of architectural schools. Many students at the schools were not there because they had wealthy parents, but owing to the self-denial of very poor parents.

He pointed out to him, however, that the architect who worked for private clients was also working for the community; the private client was a part of the community, and could not be divorced from it. The tendency was for co-operative needs to make themselves specially felt nowadays, but even the man who worked for private clients was doing work for the community, and if he was not getting two kicks out of it he was really missing a great deal.

Mr. Ansell said that Mr. Holford had said everything that he needed to say. He gave the point of view of the architect and of the teacher and of the student.

Quoting from a communication he had received from America this week, Mr. Ansell said that Le Corbusier, who had been in America recently, said, "You must not suppose that I am not interested in historical architecture. I am passionately interested in it, and I feel that I could not design my what you call 'modern stuff' if I did not know what was done in the past." Coming from Le Corbusier, Mr. Ansell suggested that we must pay attention to that. The study of the past, rightly undertaken, was a method of equipping the mind of the modern student, and was of definite assistance to him or her in the planning of things required in his or her own time; but it had to be undertaken in the right way.

Finally he congratulated the little group that produced the syllabus published in the *Architects' Journal*. It was, he said, an admirable piece of work, very thorough, and very scientific

in its method of approach, and a very fine contribution to the consideration of the whole problem of architectural education.

Also he said that he would like to say one word to his old friend Mr. Lovell, who had done very fine work in his own neighbourhood for the outside student. The body politic would always have that problem, and it was undoubtedly the duty of the R.I.B.A. to give much more consideration to the needs of the outside student and to those who are endeavouring to help him on his path of education.

In closing the meeting, THE CHAIRMAN said that it was perhaps worth mentioning that there were three categories into which all the remarks made this evening could be grouped.

The first was the matter of orientation. All along there had been a conflict between two quite different points of view. They criticised each other and replied to each other, and they never seemed to understand each other. It was a conflict between a very well-defined radicalism on the part of certain of the students and a more liberal attitude on the part of the teachers and the older members of the profession. The question which was continually cropping up was this: Should a school of architecture serve things as they are or things as they might be or ought to be?

The second category was the organisation of the school, which was really, as Mr. Skinner had suggested, a subject that demanded a meeting to itself. That had at least three aspects: group working, student participation in juries, and the position of students' clubs and societies.

The third was the range of subjects within the school, the proportion to be observed between lectures on one subject and those on another, the bias towards engineering or towards history.

Those three categories included so many subjects that one could have a whole course of debates on them and never exhaust them.

The meeting then terminated.

A PROPOSED NATIONAL COMPETITION FOR SCHOOL BUILDINGS

The Government's Education Bill is now in its last stages and is certain to reach the Statute Book. The provisions of the Bill do not become effective for three years, a delay which provides a potentially valuable time for reorganisation to meet the increased number of pupils and to put the schools of the country into a fit state. An excellent suggestion has been made by Lord De La Warr that more attention should be paid to school architecture and that there should be an architectural competition as a means of finding the ideal school building. This is naturally a proposal that will meet with the whole-hearted support of the profession, which has received public expression in the following letter to *The Times* by the Chairman of the Competitions Committee:—

Sir,—The speech of Lord De La Warr at the opening of Temple Farm Senior School, Rochester, will interest and stimulate architects throughout the country.

When the effects of school environment upon the young and impressionable are considered it must be realised that the provision of well-designed schools is as great a national necessity as the provision of well-designed houses.

Lord De La Warr followed a sound analysis of the require-

ments of school design with the excellent suggestion that an open competition be held among architects in order to produce new ideas.

Such a competition would have a wide appeal and its success is beyond question—it would certainly have the whole-hearted support of the Royal Institute of British Architects.

I am, etc.,

E. BERRY WEBBER,

Chairman, Competitions Committee,
Royal Institute of British Architects.

66 Portland Place, W.1.

26 May.

The cost of the competition premiums and expenses would be about £2,000, which the Board of Education, for technical reason, cannot supply. Lord De La Warr has appealed for this money to "some public-spirited body or individual." It is sincerely to be hoped that the money will be forthcoming and that the competition will be held. If and when it is, it will certainly get a vigorous response from the whole profession.

TWO BUILDINGS AT OUNDLE SCHOOL

Swimming Bath. A. W. S. and K. M. B. Cross [F.]

Tuck Shop and Changing Rooms. Peter Bicknell, M.A. [A.]

These are two dissociated buildings that have been finished about the same time.

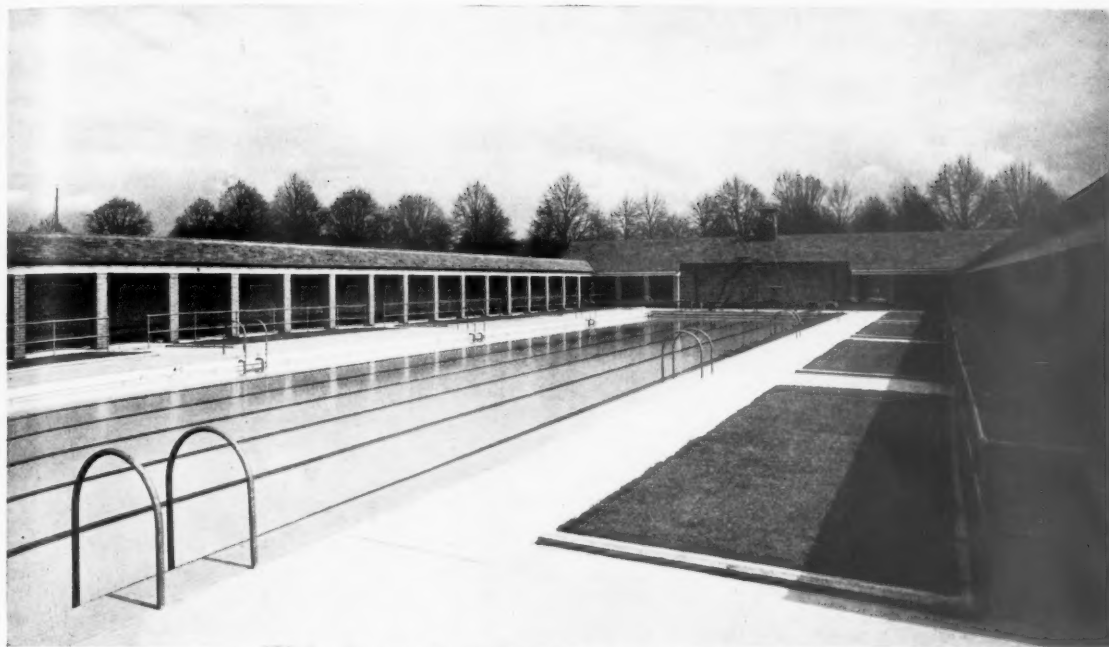
THE SWIMMING BATH.—This is a large open-air bath, 150 feet by 40 feet, planned for racing as well as general bathing. It is surrounded by a high wall to exclude winds and to give privacy and has ranges of dressing shelters on two sides and dressing boxes, filtration plant and lavatories at the entrance end. At the other end are a faience cascade aerator and raised flower boxes. Scum troughs are provided at the ends only. The walls are of reddish brown brick, the roofs of grey-green slate and the pavings are spade-finished concrete. Bordering the walk outside the dressing shelters is a tubular railing painted light grey. Between the railing and bath surround are raised beds of turf. The bath walls are of white glazed bricks and the floor of white tiles with black tiles marking the racing lines. The filtration plant gives a complete change of water in about eight hours. The total cost was £8,312.



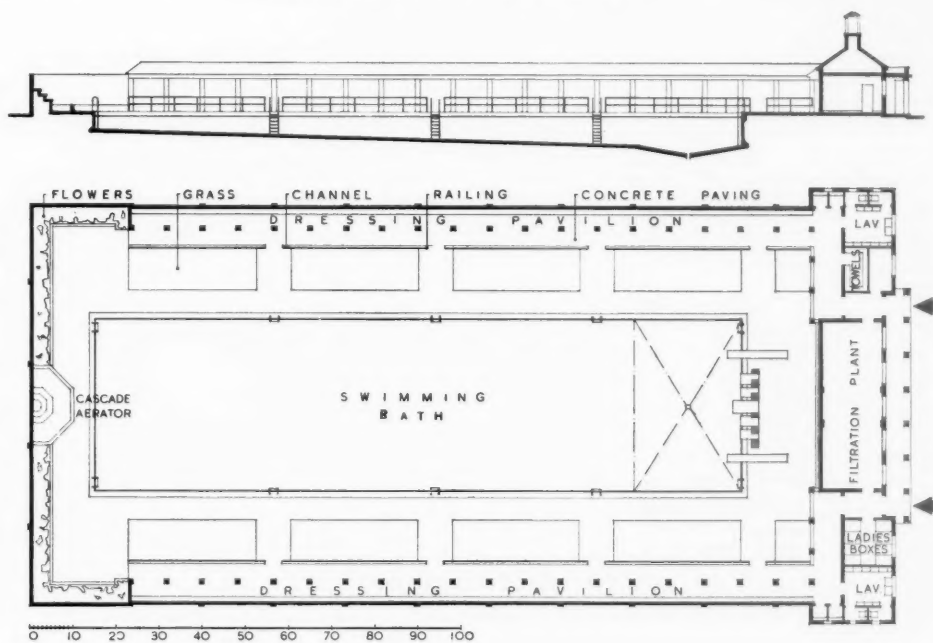
The bath seen from one of the entrances, showing the faience cascade aerator at the end, the beds of turf and dressing shelters. The numerous entrance steps are a desirable provision when, as in a school, the bath is likely to be crowded.



The two entrances to the bath are in the building housing the filtration plant and lavatories. The walls are faced with reddish brown bricks and the roofs are covered with grey-green slates. The turret is lead covered and the clock is gilt.

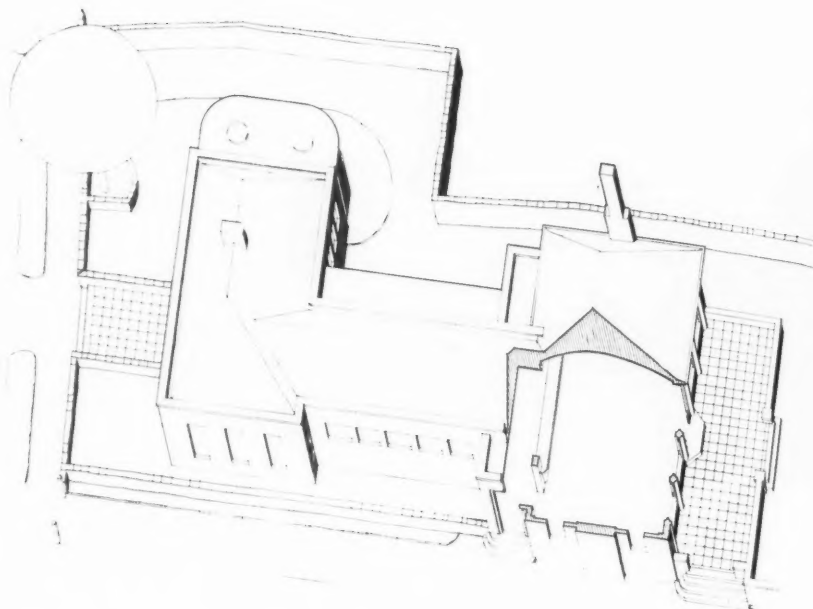


A general view of the bath looking towards the filtration plant building and the deep end. The depths are : shallow end 3 feet, deep end 6 feet 6 inches, diving pool 8 feet 6 inches



THE TUCK SHOP AND CHANGING ROOMS. — These two units are planned to be served by a centrally placed kitchen and hot water installation. The changing rooms are entered from the road front and the tuck shop from an access road at the side. On the opposite side is the kitchen yard.

The walls are faced with a light stone-coloured brick with some darker bricks in the plinth and window

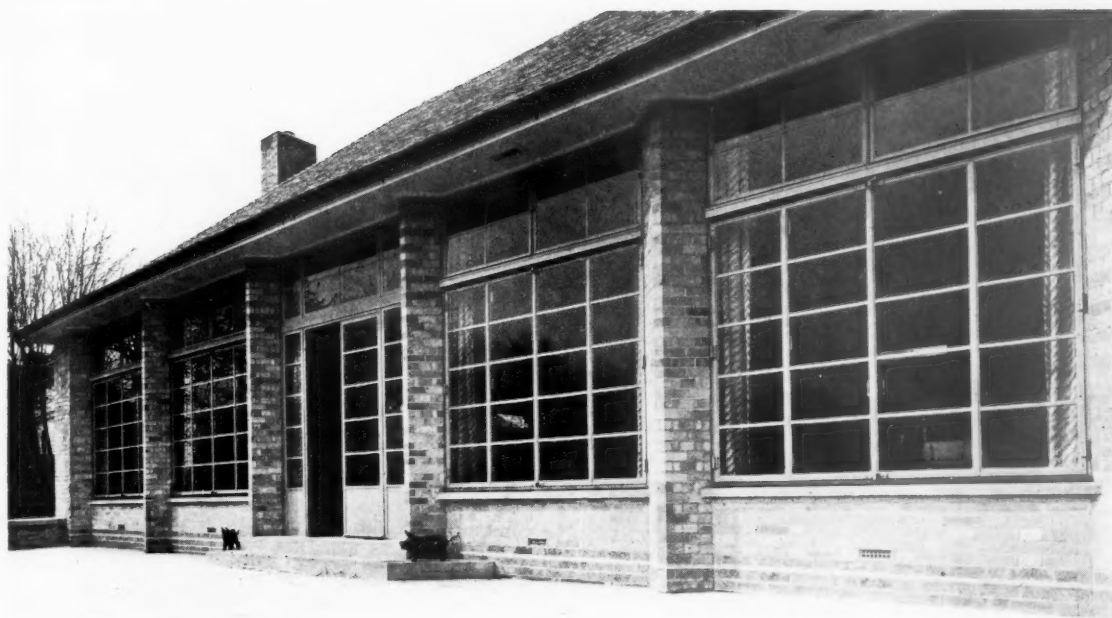


Below : The main entrance to the changing rooms, on the street side. The bricks and tiles are light stone in colour and the door surround is of Weldon stone

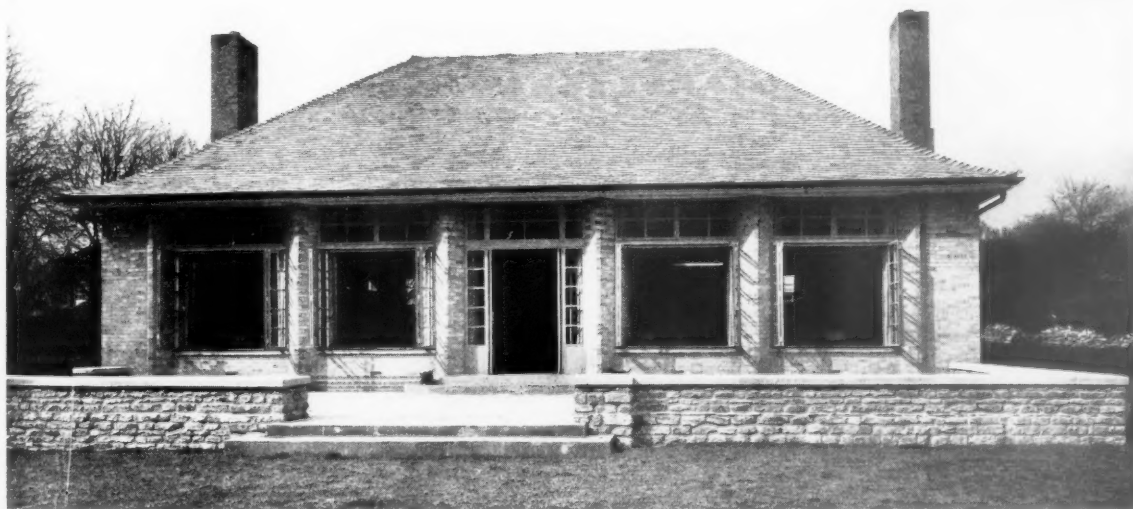


Above : The sectioned portion of the tuck shop shows the counter and coved ceiling

heads. The plain tiles on the roof are of similar light colour. The windows are of steel in wooden frames painted black and slate grey, the cills being light blue. The front door extends the colour scheme of the windows and the panels are filled with wired glass. A principal effect of the building is one of warm and pleasing colour. The stonework at the main entrance is Weldon, the remainder is Ketton. Local stone has been reused in the dwarf rubble walls from some existing walls on the site.



Two views of the tuck shop showing the accordion windows closed and open. The terrace steps lead down to a lawn enclosed by stone walls. The iron scrapers in the form of pigs reflect the fact that St. Anthony, the patron saint of the school, is often represented with his foot on a pig



The internal finishes are mainly oak joinery and furniture, relieved with a little teak; the floors are of wood blocks, quarry tiles being used in the kitchen and entrance hall and terrazzo in the bathrooms. Flush doors of figured teak are used throughout the interior. The colours throughout the building form a harmonious scheme in shades of buff and cream with oak and teak woodwork and red door furniture and red patterned fabrics. The kitchen equipment includes one large baking oven, a gas cooker, gas hotplate and stainless steel sinks. The paintwork in the kitchen is battleship grey and the woodwork is teak.

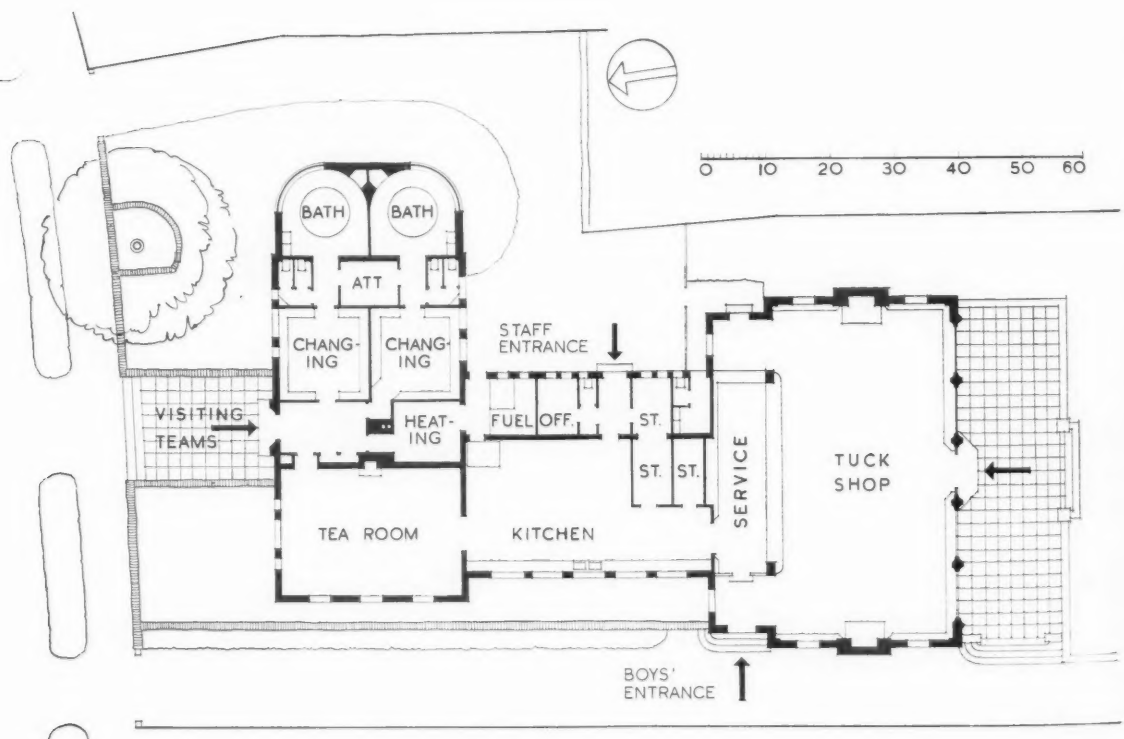
The total cost, including all fittings, movable furniture, fabrics, curtains, and site work, was £7,350, or 1s. 4½d. per foot cube. The cost of the fabric, excluding the above items, was £6,662, or 1s. 1½d. per foot cube.

CONTRACTORS AND SUPPLIERS

THE SWIMMING BATH.—General Contractors: Trollope and Colls (Dorking), Ltd. Filtration plant, Bell Brothers (Manchester, 1927), Ltd. Aerator, Hathernware, Ltd. Bricks, Henry C. Parker. Diving stage, Haywards, Ltd. Clock, Gillett & Johnston. Sanitary fittings, George Jennings (Lambeth), Ltd.

THE TUCK SHOP.—General Contractors: Henry Martin, Ltd., Northampton. Facing bricks, roofing tiles and quarry tiles, Williamson Cliff, Ltd. Steelwork, Dawnays Ltd. Steel windows, Henry Hope & Sons, Ltd. Terrazzo, Diespeker & Co., Ltd. Flush doors, John P. White and Sons, Ltd. Sanitary fittings, Dent & Hellyer, Ltd. Hot water system and kitchen equipment, Benham & Sons, Ltd. Electric equipment, Girdlestone & Co. Door furniture, Comyn, Ching & Co., Ltd., and James Gibbons, Ltd. Hardwood floors, Acme Flooring & Paving Co. Counter and table tops, Cellulin Flooring Co. Curtains, W. Perry Leach and Son. Paint, Wm. Harland & Son. Chairs, Gordon Stark. Tables, W. C. Carter.

The quantity surveyor was Mr. Sydney A. Paine, F.S.I.

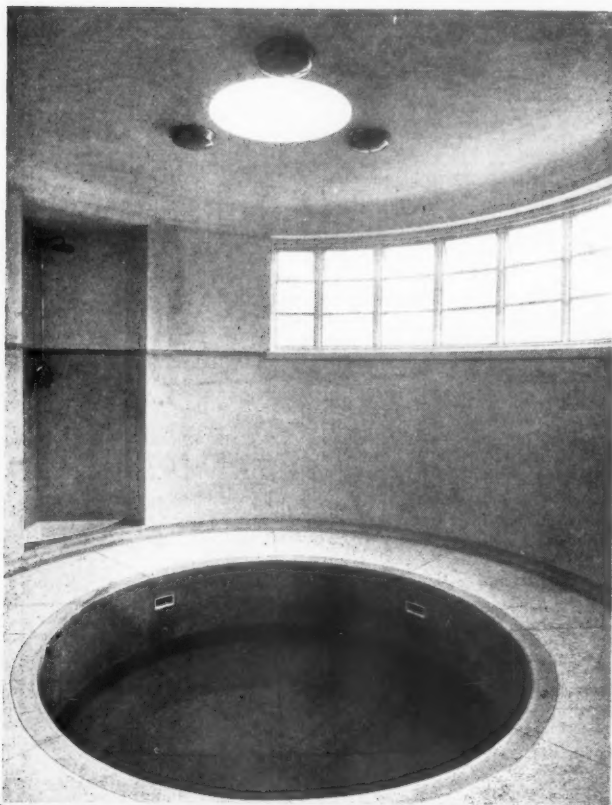


The tuck-shop counter is faced with oak. Lighting is indirect by means of bracket bowls. All windows have seats



A general view of the interior of the tuck-shop. The walls and ceiling are a rough buff plaster, the floor is of oak blocks and the fireplaces—one at each end—are of polished Portland stone and brown coloured brickwork. The furniture is of oak, designed by the architect, the table tops being blue cellulose composition. The curtains have a red and white diagonal pattern





One of the two bathrooms, which are fitted with large circular baths. The bath is of pale green and biscuit-coloured terrazzo and has yellow faience soap recesses. The floor and dado are also of biscuit-coloured terrazzo. Over the bath is a circular domed light in the flat roof



Below is the restaurant for visiting teams. The colour scheme is similar to that in the tuck shop, but the chairs are upholstered in red leather which exactly matches the paint in the architraves and the plastic door handles

The Standardisation of Building Commodities

AN IMPORTANT REPORT FROM THE BUILDING INDUSTRIES NATIONAL COUNCIL

The question of standardisation has always been one of first importance to the building industry. We do not need to be reminded of brick sizes, of scantlings, of wire gauges, etc., to know that standardisation in one form or another is very widespread and very ancient. The problem now is more acute than it ever was, because the number and type of commodities is much greater than ever before. Local standards of size have been interfered with by imported goods, traditional craft standards of quality have been broken down by mass production methods, irresponsible marketing, and new materials have been produced for which no standard tests have been evolved, so that no standards of performance can be stated.

The Building Industries National Council has recently issued a report on Standardisation policy containing the results of joint deliberations on the subject with the British Standards Institution. The Report contains an admirably clear statement of what standardisation is, and is, in general, an encouraging presentation of the first results of real co-operation between the co-ordinating and scientific authority, the B.S.I., and the industrial authority, B.I.N.C.

The Report starts with a brief explanation of how much is meant by standardisation and simplification:

Simplification describes a process of reducing unnecessary types and sizes for one and the same purpose, leaving questions of detail or design and quality to each maker or user.

Standardisation, whilst frequently including simplification, generally includes an agreed standard of quality and, when necessary, dimensions to secure interchangeability. That is to say, the preparation and publication of standard specifications which identify the article or material and which are agreed to by producers and consumers as representing a satisfactory material for general use.

There will always be wide scope for production to meet individual requirements or preferences, but production of nationally agreed standard articles, where this is desirable, economical and practical, can be shown to have great advantages and to meet a real need in the building industry.

The three aspects of standardisation can be described as (1) "qualitative" standardisation, providing for a suitable standard of quality acceptable to the building industry for general use, (2) "dimensional" standardisation, referring to a standardised type, design or size including interchangeability when necessary, and (3) standard tests.

This is followed by a warning that inflexibility is dangerous. "A system of standardisation rigidly determining the details of building technique would be an infinitely greater obstacle to progress than the present . . . multiplicity of bye-laws." But the case for standardisation, if it is properly co-ordinated, and has the requisite flexibility, is clear enough to warrant action.

There is urgent need for general standards of quality satisfactory for all ordinary uses, and there is a case for reduction in the number of varieties of articles. There is also a case for

interchangeability in a certain number of instances. Limitation of the use of materials is not desirable except the exclusion of unsuitable ones by standardised tests.

The first tentative efforts to introduce some measure of standardisation within the building industry produced relatively small and unimportant results, by reason of the fact that the available machinery was inadequate, either to ascertain the views and needs of those concerned, or to achieve the necessary co-ordination between the various interests affected. The result was that if a standard was decided and published, it by no means followed that it would be widely adopted in practice. Consequently, there is at present little evidence that can be adduced as proof based on experience that standardisation is beneficial. It would, therefore, be unfair to form any judgment on what has been done in this earlier stage.

The two types of standardisation—of quality and size—each bring specific advantages to the industry and public. Standardisation of quality protects the consumer from bad goods, and the trader from the unfair competition of those who do not maintain quality. Standardisation of size promotes economies in production and use; costs are lowered by the possibilities of large-scale production, and the reduction of the amount of capital tied up in patterns and stocks of variant designs.

The report is full of warnings that the problem is not simple, and that the best results cannot necessarily be obtained by the issue of rigid standards which may, perhaps, not be used. The enforcement of standards may affect international trade adversely, the public may not react sympathetically to a reduction in the range of goods from which they can choose, and so on.

The Building Industries National Council has come to the conclusion that it can do much, particularly in the initial stages, to promote the objects and facilitate the work of the British Standards Institution by ensuring, at the very outset, that the various proposals for standardisation have the widest support of the building industry as represented by B.I.N.C. It is not B.I.N.C.'s intention to engage in standardisation, but solely to assist in ensuring that the technical work of the B.S.I. shall be fully supported by the organised building industry as represented by B.I.N.C., before it is undertaken.

With this end in view, B.I.N.C. have made the following recommendations:

- (i) That [they] prepare from time to time lists of subjects for standardisation formulated in order of urgency, the British Standards Institution on their part to endeavour to deal with these by their usual means as rapidly as possible, commencing the work, and, as far as is possible, issuing British Standard Specifications in the order suggested.
- (ii) That [they] be invited to give requests for standardisation received by the British Standards Institution their immediate consideration and to place such subjects in order of priority in the official lists of subjects recommended for standardisation.

- (iii) That [they] be invited by the British Standards Institution, as and when necessary, to obtain information as to the extent of use or types in use of any articles or materials proposed for standardisation, and to recommend appropriate action by the British Standards Institution.

The principles underlying this arrangement were further defined in a Memorandum adopted by the B.S.I., the relevant sections of which read as follows:

- Standardisation in relation to building materials and components embodies three stages:
- The qualitative and dimensional standardisation of specific types of building materials or components.
 - The limitation of the number of types of building materials or components as the result of such qualitative and dimensional standardisation.

- (c) The co-ordination of such standardised materials or components into standardised assemblies.

It is also the view of the Building Industries National Council that all projects for standardisation should go through the stages set out . . . above in the order they are given, so that (b) and (c) are only applied to those materials and components which have passed through the previous stages.

The value of this B.I.N.C. report is great, and it can be hoped that after this clarification of what has hitherto been a subject that has received far too little consideration as a general problem, real progress will be made.

Review of Periodicals

Attempt is made in this review to refer to the more important articles in all the journals received by the Library. None of the journals mentioned are in the Loan Library, but the Librarian will be pleased to give information about prices and where each journal can be obtained. Members can have photostat copies of particular articles made at their own cost on application to the Librarian.

SCHOOLS

ARCHITECTS' JOURNAL. Vol. LXXXIII. No. 2158. 28 May. P. 797.

Schools. Special number on Stated-aided schools, illustrated by many photographs and plans, mostly of schools abroad. Articles on the system of state education; children and architecture; school health; planning; construction, heating and lighting and equipment. A very excellent number and an essential reference.

ARCHITECTURE (PARIS). Vol. XLIX. No. 5. 15 May. P. 169.

Schools, etc.: Rabat, French Morocco, by M. Marchisio.

CIVIC

ARCHITECT AND BUILDING NEWS. Vol. CXLVI. No. 3517. 15 May. P. 194.

Derby Police Courts and Offices, by C. H. Aslin [F.].

ARCHITECTURE D'AUJOURD'HUI. Vol. VII. No. 4. April. P. 54.

Le Mobilier National (National Furniture depository and factory), Paris, by A.-G. Perret.

ARCHITECTURE ILLUSTRATED. May, 1936. P. 141.

Council Offices, Leatherhead, by H. R. Gardner and C. H. Rose [F. & A.], and council office, by W. Plumpton, for Hoddesdon U.D.C.

ARCHITECT AND BUILDING NEWS. Vol. CXLVI. No. 3519. 29 May. P. 251.

Boulogne-sur-Seine Town Hall, by Tony Garnier and Debat-Ponsan, a characteristic French construction job based in design on the Beaux Arts tradition.

SWIMMING BATHS

BUILDING TIMES. Vol. LVII. No. 5. May. P. 189.

Norris Green and Dovecot Baths, Liverpool, by architectural staff under A. D. Jenkins, Liverpool Corporation Surveyor.

ARCHITECTURE (PARIS). Vol. XLIX. No. 5. 15 May. P. 145.

Swimming Bath and Stadium at Trouville, by B. de Laujardière and Puthomme, including all usual accessory buildings, also Suze Stadium, Alfort, by same architects.

SPORTS HALL

ARCHITECTURAL RECORD. Vol. LXXIX. No. 5. May. P. 363.

Newfield House, Swarthmore College, Penn., by R. E. Lamb. A large games hall under single span roof, leaving games area of 325 x 125 feet, with changing rooms, etc., round it.

OFFICES

ARKITEKTEN (HELSINGFORS). 1936. No. 3. P. 33.

Office building for Lassilla and Tikanoja O.Y., Helsingfors; reinforced concrete structure with interesting fenestration; also report on a competition for a large warehouse and business house for a firm of wholesalers, Viborg.

BOUWDEDRIJF (HAGUE). Vol. XIII. No. 10. 15 May. P. 95.

H.A.V. Bank at Schiedam by Dudok. A good small brick, steel and glass building, includes bank and shops.

MARKET

STAVITEL (PRAGUE). Vol. XV. No. 5. P. 57.

Competition schemes for a huge market group in Prague. Illustrations of many designs.

INDUSTRIAL

BAUGILDE (BERLIN). Vol. XVIII. No. 14. 15 May. P. 384.

Opel car factory, Brandenburg, a vast mass-production works in steel, brick, and glass, well illustrated to show progress lines in production, etc.

Also Factory wash-houses. Short illustrated article.

TRANSPORT BUILDINGS

ARCHITETTURA (ROME). Vol. XV. No. 4. April. P. 147.

Florence railway station, well illustrated; also large bus station at Genoa, an interesting scheme.

BAUGILDE. Vol. XVIII. No. 12. 25 April.

Railway station footbridges. A useful article illustrating various systems of bridging tracks on non-terminal stations.

CINEMAS

ARCHITECTURE (PARIS). Vol. XLIX. No. 5. 15 May. Doc. Tec. P. 25.

Safety in cinemas. Full reprint of the French regulations governing construction, planning, exits, lighting, etc.

Accessions to the Library

1935-1936—VIII

Lists of all books, pamphlets, drawings and photographs presented to, or purchased by, the Library are published periodically. It is suggested that members who wish to be in close touch with the development of the Library should make a point of retaining these lists for reference.

Any notes which appear in the lists are published without prejudice to a further and more detailed criticism.

Books presented by publisher for Review marked

Books purchased marked

*Books of which one copy at least is in the Loan Library.

R.

P.

ARCHITECTURE

ARCHITECTS' STANDARD CATALOGUE

8th ed. 1936/1938. In one vol. 11½". Lond.: Standard Catalogue Co. [1936.] R.

SOCIETIES (GENERAL)

LIVERPOOL ARCHITECTURAL SOCIETY

Annual report . . . for . . . 1935-36. (88th session.) [1936.] R.

HISTORY

ATKINSON (T. D.)

* A Key to English architecture. 74". x + 214 pp. + xiv pls. Lond.: Blackie. 1936. 5s. R. & P.

FYFE (THEODORE)

* Hellenistic architecture. An introductory study. 9". xxxi + 208 pp. + front. + xxix pls. (backed). Cambridge: U.P. 1936. £1 1s. R. & P(2).

RICKMAN (THOMAS)

An Attempt to discriminate the styles of English architecture, etc. 2nd ed. 80. London. [1819.] Presented by Mr. Sydney Tatchell [F.]

ARGAN (G. C.), and others

* Dopo Sant' Elia. Scritti di [various authors]. Con il manifesto dell' architettura futurista di Antonio Sant' Elia. 9". 142 pp. Milan: Domus. 1935. R (2).

DRAWING

SMITH (PERCY)

Lettering and its uses to-day. (Royal Society of Arts. Cantor lectures, 1936.)

pam. 9¾". Lond. [1936.] 2s. R.

PROFESSIONAL PRACTICE AND SURVEYING

MINISTRY OF HEALTH

Rates and rateable values.

9¾". 70 pp. Lond.: H.M.S.O. 1936. 1s. R.

MINISTRY OF HEALTH

Model bye-laws.

iv. New streets and buildings (urban series).

[New ed.] pam. 9¾". Lond.: H.M.S.O. 1936. 1s. 3d. P. 1933 edition to Loan Library.

ARCHITECTS' REGISTRATION COUNCIL OF THE UNITED KINGDOM

Register of registered architects, etc.

"Volume three . . . 1935." 9¾". Lond.: A.R.C.U.K. [1935.] 2s. 6d. R (2).

INCORPORATED SOCIETY OF AUCTIONEERS AND LANDED PROPERTY AGENTS

List of members (incorporating the Code of Conduct and Scale of Charges).

1936. R.

BUILDING TYPES

(CIVIL)

BLAKE (GEORGE)

R.M.S. *Queen Mary*. A record in pictures, etc. Photographed by Stewart Bale and others.

8½". var. pp. + pls. Lond.: Batsford. [1936.] 2s. 6d. R.

HEMMING (PETER)

Windmills in Sussex. Etc.

9¾". xix + 138 pp. + pls. Lond.: C. W. Daniel. [193—.] 8s. 6d. P.

SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS

* The Ancient bridges of Wales and Western England. By E. Jervoise.

7". xii + 180 pp. + pls. Lond.: Archl. Press. 1936. 6s. 6d. R. & P.

(RELIGIOUS)

SHORT (E. H.)

* A History of religious architecture.

New ed. 1936. 12s. 6d. R. & P. Copy for Loan Library.

MURRAY (MARGARET A.)

* Egyptian temples.

8¾". x + 246 pp. + lxiv pls. Lond.: Sampson Low. [19—.] (3s. 6d., remd.) P(2).

INCORPORATED CHURCH BUILDING SOCIETY

Annual report: 118th, for . . . 1935.

1936. R.

SEDLMAIER (RICHARD) and PFISTER (RUDOLF)

Die Fürstbischöfliche residenz zu Würzburg. (Schlösser in Bayern series. [Bavaria]: Museen und Kunstsammlungen des Ehemaligen Krongutes.)

2 vols., text and plates. 12½". Munich: Georg Müller. 1923. (£1 10s.) P.

(EDUCATIONAL)

TREASURY: UNIVERSITY GRANTS COMMITTEE

Report for the period 1929-30 to 1934-35, etc.

13¾". Lond.: H.M.S.O. 1936. 4s. R.

(DOMESTIC)

ARCHITECTS' AND TECHNICIANS' ORGANISATION

An Exhibition on working class housing. . . Housing Centre . . . 1936.

pam. 8½" [Lond.] 1936. R.

WHITTEN (ROBERT) and ADAMS (THOMAS)

Neighbourhoods of small homes. Economic density of low-cost housing in America and England. (Harvard City Planning Studies, iii.)

9¾". xvi + 205 pp. + xiv pls. Cambridge, U.S.: Harvard U.P. 1931. 15s. P.

LEAGUE OF NATIONS: HEALTH ORGANISATION

The Housing policy in the Netherlands. By H. Van der Kaa.

9½". 102 pp. Geneva: L. N. Pubns. Dept. 1935. (2s. 6d.) P.

HEGEMANN (WERNER)

* City planning housing. Vol. i: Historical and sociological. 9". New York: Archl. Bk. Pubg. Co. 1936. (16s.) R. & P.

MINISTRY OF HEALTH

* Housing Act, 1935. (Circular 1539.)

pam. 9¾". Lond.: H.M.S.O. 1936. 2d. R (2).

GREAT BRITAIN: PARLIAMENT—BILLS

Housing. [H.L.] (53.)

11". Lond. 1936. 3s. R.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL

Facts and figures regarding the present housing situation and the . . . anti-slum campaign, *etc.*Revised ed. (Apl.) pam. 12 $\frac{3}{4}$ ". Lond. 1936. R.

Memorandum upon the provisions of the Housing Act, 1935.

Revised ed. pam. 12 $\frac{3}{4}$ ". Lond. 1936. R.

Memorandum upon the rural housing problem.

Revised ed. pam. 12 $\frac{3}{4}$ ". Lond. 1936. R.ARCHITECTURAL DESIGN AND CONSTRUCTION, *journal*[Special numbers. Flats.] Points on planning flats, *etc.* (May and June.)13". Lond. 1935. 1s. each. R.
For Loan Library.

LIGHTOLER (T.)

The Gentleman and farmer's architect. . . parsonage and farm houses, lodges . . . green houses, *etc.*

40. London. n.d. (£1.) P.

BRAUN (HUGH)

* The English Castle.

8 $\frac{1}{2}$ ". viii + 120 pp. + 121 pls. (backed). Lond.: Batsford.
1936. 7s. 6d. R. & P.

PHILLIPS (R. RANDALL)

Houses for moderate means.

9 $\frac{3}{4}$ ". 112 pp. incl. pls. Lond.: Country Life. 1936. 6s. R.NATIONAL COUNCIL OF WOMEN OF GREAT BRITAIN: RESEARCH
SUB-COMMITTEE OF THE HOUSEHOLD SERVICE COMMITTEE

* The Convenient kitchen.

pam. 8 $\frac{1}{2}$ ". Lond. [1936.] 2d. R (2).

DETAILS AND FITTINGS

TIESCHOWITZ (BERNHARD VON)

Das Chorgestühl des Kölner domes.

12 $\frac{1}{2}$ ". 48 pp. (viii) + 48 pp. + front. + 96 pls. (backed).
[Berlin:] Deutscher Verein für Kunstwissenschaft. [1936.]
(15s.) P.

ALLIED ARTS

MANCHESTER City: ART GALLERIES

Report . . . for . . . 1935.

[1936.] R.

STEEGMANN (JOHN)

* The Rule of taste from George I to George IV.

8 $\frac{1}{2}$ ". xviii + 203 pp. + pls. Lond.: Macmillan. 1936. 10s. 6d.
R. & P.

BRYAN ()

Bryan's Dictionary of painters and engravers.

4th ed. By G. C. Williamson. Reprint. 5 vols. 10 $\frac{1}{2}$ ".
Lond.: G. Bell. (1903-04) 1930-26-34. £4 17s. 6d. P.

BUILDING SCIENCE

RAMSEY (C. G.) and SLEEPER (H. R.)

* Architectural graphic standards.

2nd ed. 11 $\frac{1}{2}$ ". xii + (24) + 260 pls. (backed). New York:
J. Wiley. 1936. (£1 10s.) R. & P.

INDUSTRY

DIRECTORY OF CONTRACTORS

—, 1936. C. W. Biggar, ed.

8 $\frac{1}{2}$ ". Lond. 1936. 17s. 6d. R.PALMER (ERIC), *pseud.*

The Human factor in industry.

7 $\frac{1}{2}$ ". (vi) + 37 pp. Lond.: Chapman & Hall.
1936. 2s. R.

MATERIALS

U.S.S.R.: POSTOIANNAIA VSESOIUZNAIA STROITEL'NAIA VISTAVKA
[PERMANENT UNITED BUILDING EXHIBITION]: BIURO
TEKHICHESKOI INFORMATSII STROINDUSTRIIDerevo v stroitel'stve [timber in building], *etc.* (Tsentral'naia
stroitel'naia biblioteka, *etc.*, series.)9 $\frac{3}{4}$ ". Moscow. 1936. R.DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH:
FOREST PRODUCTS RESEARCH

Leaflets.

No. 6. Dry rot in buildings. *Etc.*Revised ed. pam. 9 $\frac{3}{4}$ ". 1933. R.

Records.

pams. 9 $\frac{3}{4}$ ". Lond.: H.M.S.O.
No. 6. (Timber series No. 1.) The properties of an African
mahogany.

1935 [1936]. 6d. R.

No. 7. (— No. 2.) The properties of Mansonia.

1936. 6d. R.
No. 8. (Timber mechanics series No. 2.) Strength tests of
structural timbers. Part 2. *Etc.*1936. 6d. R.
No. 9. (Wood preservation series No. 2.) Methods of applying
wood preservatives. Part 1. *Etc.*

1936. 6d. R.

BRITISH STANDARDS INSTITUTION

British standard specifications, *cont.*No. 242 (incl. 243 and 259) . . . linseed oil for paints . . .
(three of a series . . . for paints, varnishes, *etc.*).

Revised ed. 1936. 2s. R.

No. 311. . . . gold size . . . (one of a series for paints,
varnishes, *etc.*).

Revised ed. 1936. 2s. R.

No. 256 (incl. 257-8, 274). . . . Varnishes . . . (. . . four of a
series . . . for paints, varnishes, *etc.*).

Revised ed. 1936. 3s. 6d. R.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH:
ILLUMINATION RESEARCH

Technical papers.

No. 18. The transmission of light through window glasses.

pam. 9 $\frac{3}{4}$ ". Lond.: H.M.S.O. 1936. 9d. R.

CONSTRUCTION

MANNING (G. P.)

Reinforced concrete design.

2nd ed. 8 $\frac{1}{2}$ ". xviii + 497 pp. + 2 folding pls. Lond.:
Longmans, Green. 1936. £1 1s. R.

SANITARY SCIENCE AND EQUIPMENT

BRITISH STANDARDS INSTITUTION

British standard specifications, *cont.*:—No. 674 . . . rubber joint rings for water mains and sewers.
1936. 2s. R.

No. 161 . . . tungsten filament general service electric lamps.

Revised ed. 1936. 3s. R.

No. 398 . . . symmetrical light distribution from lighting fittings.

Revised ed. 1936. 2s. R.

PROOFING

No. 661. B—s— glossary of acoustical terms and definitions.
1936. 3s. 6d. R.

ENGINEERING

BARTOVSKY (JOSEF)

Stavba zdymadla u Vraného nad vltavou a její hospodarské i
sociální dusledky [construction of lock at Vrané]. Reditelství
pro Stavbu Vodních Cest [Central Office for Water Ways Con-
struction]. (From Zprávách Verejné Služby technické, xviii.)pam. 12 $\frac{1}{4}$ ". Prague. 1936.
Presented by the Central Office.

Everyday Things at Bristol

THE OPENING OF THE EXHIBITION OF EVERYDAY THINGS AT THE ROYAL WEST OF ENGLAND ACADEMY, BRISTOL, ON 18 MAY 1936

The Wessex Society of Architects are to be congratulated on the excellent arrangements which they made for the display of the Exhibition of Everyday Things at the Royal West of England Academy, and for the untiring assistance which they have given since they applied for this exhibition last July. The Exhibition Committee realised that any attempt to tour an exhibition of this size, requiring as it does so much careful handling and displaying, would be quite impossible without the full co-operation of the local museums and art galleries and the allied societies. In Bristol the fullest co-operation has been given.

Mr. H. W. Maxwell, Director of the Bristol Museum and Art Gallery, and his Committee not only undertook the practical arrangements, but were successful in obtaining the loan of the whole of the galleries of the Royal West of England Academy, through the kindness of the Royal West of England Academy Council. In addition the Bristol branch of the Design and Industries Association have helped to sponsor this exhibition. Possibly one of the most encouraging features has been the support given by local retailers, no fewer than 100 displaying posters and advising their clients to visit this exhibition. The cost of publicity has been borne by the Wessex Society of Architects and the cost of transport and staging by the Bristol Museum and Art Gallery.

Before the opening of the exhibition, a luncheon was given by the President and Council of the Wessex Society of Architects. The President, Mr. H. Stratton Davis, presided, and among those present were the Lord Mayor and Lady Mayoress of Bristol, Mr. Percy Thomas and Mrs. Thomas, Sir Ian and Lady MacAlister, the Mayor of Swindon, and Sir Francis Cowlin, Chairman of the Royal West of England Academy.

Sir Ian MacAlister, proposing the toast of "the City of Bristol," coupled with the name of the Lord Mayor, said that Bristolians should be very proud of their fine city. For his part, he was inclined to wonder whether they were proud enough, and whether the tendency on the part of provincial cities was not to think too little of themselves and their history and tradition in comparison with London, where, he was sorry to say, so many of the best men from the provinces had found their way. He was glad that Bristol had such a fine, rising school of architecture.

The Lord Mayor, Alderman C. T. Budgett, in reply, and proposing the toast of "The Royal Institute of British Architects," referred briefly to the great history of Bristol, and to the fact that the city did possess architects who had done, and were doing, much to beautify it. He wanted to express the gratitude of the citizens of Bristol to the Institute for all it was doing

to further public education in good design and to guide the taste of the people into the right channels.

Mr. Percy Thomas congratulated the Wessex Society of Architects on having been the first to secure the Exhibition of Everyday Things. He had very happy memories of the time he spent in Bristol when he was building the police station and the Law Courts. He was grateful to the city for the encouragement it had given the Royal Institute of British Architects in its work, as without the support of the heads of the various civic municipalities the efforts of the Institute would be quite useless.

The President of the Wessex Society of Architects (Mr. H. Stratton Davis), proposing the health of "The Guests," thanked them very much for the support they had given to the exhibition and to the Society's work as a whole. He said that the arts had always flourished under distinguished patronage, and that this was as necessary to-day as it had ever been. They were greatly indebted to Sir Francis Cowlin, Chairman of the Royal West of England Academy, for his interest in architectural education.

Mr. G. Talbot Plumb, J.P., Chairman of the Bristol Museum and Art Gallery, thanked the Royal Institute of British Architects for allowing them to have the exhibition in Bristol, and expressed much appreciation of the exhibition scheme as a whole.

Mr. J. E. Barton, Headmaster of the Bristol Grammar School, said that the exhibition was a move in the right direction. He added that the Institute had undertaken a great work in its endeavours to teach people to appreciate good design, and to bring beauty into the things of everyday life.

The Committee of the Bristol Museum and Art Gallery arranged a special opening for 3 o'clock, and over 250 attended. Indeed, with the exhibits in position it was quite impossible to accommodate any more. It was generally agreed that Mr. Maxwell had made a most effective display, the textiles being used to drape the whole of the large gallery in which the furniture, glass, silverware and dressing-table equipment sections were housed, the other sections being allotted a small gallery each.

Opening the exhibition, the President said that the Institute was happy to be able to discharge the duty with which King Edward VIII, as Prince of Wales, had charged them when speaking at the Royal Institute of British Architects' Centenary Banquet.

In arranging and touring an exhibition of this kind the Institute was helping the people of Britain to obtain to "better living" in the most practical way possible.

Here, in the form of a compact and attractive exhibition, were to be found articles which were good, simple and fit for purpose, while the public were given full information as to where these articles could be obtained and at what price.

Mr. Maxwell, replying on behalf of the Bristol Museum and Art Gallery, thanked the Institute and the Wessex Society, whose co-operation had made the showing of this exhibition at Bristol possible.



A group taken at the opening of the Exhibition of Everyday Things at Bristol on 18 May and two views in the Galleries. The group shows from left to right: Mrs. Davis, Mr. Stratton (of the Wessex Society of Architects), Mrs. May George (Mayor of Swindon), Sir Ian MacAlister, Mr. Percy Thomas, the Lord Mayor of Bristol, the Lady Mayoress, and Mrs. Thomas

R.I.B.A. Reception

The Second Reception in the R.I.B.A. since the move to Portland Place was held on the evening of 20 May. A large company of members and their friends and of distinguished guests was present, and was received by the President and Mrs. Thomas.

Among those who accepted invitations to be present were the following:—

The French Ambassador; the Italian Ambassador and Donna Antonietta Grandi; the Polish Ambassador and Countess Raczyńska; the Chinese Ambassador; the Turkish Ambassador and Madame Fethi Okyar; the Austrian Minister; the Bulgarian Minister and Madame Radeff; the Estonian Minister; the Greek Minister; the Hungarian Minister and Madame de Masirevich; the Iraqi Minister; the Latvian Minister and Madame Zarine; the Norwegian Minister; the Saudi Arabian Minister; the Swedish Minister; the Swiss Minister and Madame Paravicini; the Uruguayan Minister; the Dominican Minister and Madame Henriquez-Ureña;

The Bolivian Chargé d'Affaires; the Rumanian Chargé d'Affaires and Madame Buzdugan;

The Honorary Consul-General for Austria and Lady Seligman; the Italian Consul-General; the Chief of the Consular Division of the Lithuanian Legation and Madame Zmuidzinas; the Consul General of the Netherlands; the Consul-General for Norway; the First Secretary of the German Embassy; the First Secretary of the Latvian Legation;

The High Commissioner for Australia and Mrs. S. M. Bruce; the High Commissioner for Canada and Mrs. Vincent Massey; the High Commissioner for India; the High Commissioner for the Irish Free State; the High Commissioner for Southern Rhodesia and Mrs. Lanigan-O'Keeffe; the High Commissioner for the Union of South Africa; the Agent-General for British Columbia and Mrs. W. A. McAdam; the Trade Commissioner for Malta; the Trade Commissioner for Newfoundland; the Agent-General for Quebec and Madame Lemieux; the Acting Agent-General for Tasmania; Prince and Princess Otto von Bismarck; Mr. James Ramsay MacDonald, the Lord President of the Council; Sir John Simon, the Secretary of State for Home Affairs; the Marquess of Zetland, the Secretary of State for India; Sir Kingsley Wood, the Minister of Health; the Lord Chief Justice and the Lady Hewart; Lord Snell; Lord Ashfield; Lord Amulree; Lord and Lady Balfour of Burleigh; Lord and Lady Allen of Hurtwood; Lady Horder; Lord and Lady Gorell; Lord Dawson of Penn; Lord and Lady Dunsany; Lord and Lady Plender; Lord and Lady Jessel; Lord Mildmay of Flete; Lord Blanesburgh; Lord Meston; Viscount Esher; the Earl and Countess of Bessborough; Lord Conway of Allington; Lord Wolverton; the Master of the Rolls and Lady Wright; the Dean of St. Paul's and Mrs. Matthews; the Dean of Westminster and Mrs. Norris; Canon S. A. Alexander and Mrs. Alexander; Canon J. O. Hannay;

The Vice-Chancellor, the University of Durham and Lady Bolam; the Provost of University College, London and Mrs. Mawer; the Principal of King's College, London and Mrs. Halliday; the Director, the London School of Economics; the Director, the Courtauld Institute of Art; the Librarian, the Bodleian Library, Oxford; the Secretary of the Senate of the University of London and Mrs. Maurice Webb; the Secretary of University College, London and Mrs. C. O. G. Douie;

Sir Terence O'Connor; Sir Thomas and Lady Hughes; Sir Malcolm M'Hwraith; the Recorder of London and Lady Gregory; Sir Felix Cassel, the Treasurer of Lincoln's Inn; Alderman Ewart G. Culpin, the Vice-Chairman of the London County Council; the Clerk, the London County Council; the Chairman, the Middlesex County Council; the Chairman, the Surrey County Council and Mrs. Chuter Ede;

The Master, the Drapers' Company; the Prime Warden, the Fishmongers' Company; the Prime Warden, the Goldsmiths'

Company; the Master, the Skinners' Company; the Master, the Carpenters' Company and Mrs. Hutton Freeman;

The Chairman, the City Lands Committee; the Chairman, the Special Committee of the Corporation of the City of London and Mrs. C. W. Whitaker;

The Mayor and Mayoress of Camberwell; the Mayor and Mayoress of Holborn; the Mayor of Lambeth; the Mayor and Mayoress of Paddington; the Mayor and Mayoress of Stoke Newington; the Mayor and Mayoress of Woolwich; the Mayor and Mayoress of Hampstead; the Mayor of Finsbury;

The Director, the National Portrait Gallery and Mrs. Hake; the Director, the Tate Gallery; the Keeper, the London Museum; the Curator, Sir John Soane's Museum and Mrs. Arthur Bolton; the Director, the Guildhall Art Gallery and Mrs. J. L. Douthwaite; the Director, the Royal College of Music and Lady Allen; Sir Robert and Lady Witt; the Director, the Imperial Institute and Lady Lindsay;

The Headmaster of Harrow and Mrs. Vellacott; the Headmaster of Westminster School and Mrs. Costley-White;

Sir Charles and Miss Howell Thomas; Sir Oswyn and Lady Murray; Sir John and Lady Maffey; Sir William Gowers; Sir Henry Pelham; Sir Russell and Lady Scott; Sir George Hill; Sir Patrick and Lady Duff; Sir Robert and Lady Vansittart; Sir Horace and Lady Wilson; Sir Horace and Lady Hamilton; Sir George Chrystal and Miss Chrystal;

The President, the Society for the Protection of Ancient Buildings; the President, the Faculty of Architects and Surveyors; the President, the Architectural Association and Mrs. Pakington; the President, the Auctioneers' and Estate Agents' Institute and Mrs. E. W. Eason; the President, the Incorporated Society of Auctioneers and Landed Property Agents and Mrs. K. R. England; the President, the Royal Academy; Mr. Sydney Tatchell, President and Chairman of the Building Industries National Council and Chairman of the Architects' Registration Council of the United Kingdom and Mrs. Sydney Tatchell; the Chairman, the Council for the Preservation of Rural England and Mrs. E. Guy Dawber; the President, the Royal Society of Medicine and Mrs. Robert Hutchison; the President, the Royal College of Surgeons and Lady Wallace; the President, the Chartered Surveyors' Institution and Mrs. Harry M. Stanley; the President, the Institution of Civil Engineers; the President, the Institution of Electrical Engineers and Mrs. J. M. Kennedy; the President, the Institute of Builders and Mrs. Purkiss-Ginn; the President, the National Federation of Building Trades Employers; the President, the Institute of Chartered Accountants and Mrs. A. E. Cutforth; the President, the London Master Builders' Association and Mrs. Eric Burt; the President, the Architecture Club; the President, the Royal Society of British Sculptors and Lady Reid Dick; the Chairman, the Council for the Preservation of Rural Wales and Mrs. Clough Williams-Ellis; the President, the National Housing and Town Planning Council and Mrs. John Bond; the Master, the Art Workers' Guild and Mrs. Harry Morley; the President, the Royal Geographical Society and Lady Cox; the President, the Royal Society of British Artists and Mrs. Bertram Nicholls; the President, the Incorporated Clerks of Works Association; the President, the Geological Society;

The President, the Board of General Purposes, the United Grand Lodge of England; the President, the Royal Institute of Painters in Water Colours; the President, the Town Planning Institute; the Secretary, the Society of Antiquaries; the Secretary, the Architectural Association; the Administrative Secretary, the Architectural Association; the Secretary, the Auctioneers' and Estate Agents' Institute; the Secretary, the Incorporated Society of Auctioneers and Landed Property Agents and Mrs. Stevenson; the Secretary, the Building Industries National Council; the Secretary, the Council for the Preservation of Rural England; the Secretary, the Royal Society of Medicine; the Secretary, the Royal College of Surgeons; the Secretary, the Royal Academy and Mrs. Lamb; the Secretary, the Chartered Surveyors' Institution; the Secretary, the Institution

of Mechanical Engineers; Mr. Norman H. Walls, Joint Secretary, the National Federation of Building Trades Employers; the Secretary, the National Federation of Building Trades Operatives and Mrs. Richard Coppock; the Secretary, the Institute of Chartered Accountants and Mrs. Bankes; the Secretary, the Town Planning Institute; the Secretary, the Institution of Structural Engineers and Mrs. Maitland; the Secretary, the National Trust; the Secretary, the Garden Cities and Town Planning Association; the Secretary, the Art Workers' Guild and Miss Nelson; the Secretary, the Design and Industries Association; the Registrar, the Architects' Registration Council of the United Kingdom and Mrs. Pembroke Wicks; the Hon. Secretary, the Chemical Society; the Acting Secretary, the Royal Society of Portrait Painters and Miss Chisman; the Secretary, the Architects' Benevolent Society; the Secretary, the Royal Geographical Society; the Joint Secretary, the Faculty of Architects and Surveyors; the Hon. Secretary, the Royal Society of British Artists; the Secretary, the Society of Engineers; the Organising Director of the National Federation of Building Trade Employers in South Africa and Mrs. H. C. Roberts; the Secretary, the Architecture Club;

Sir Theodore and Lady Chambers; Sir Edward and Lady Knapp-Fisher; Sir William and Lady Rothenstein; Sir Landon and Lady Ronald; Sir Henry and Lady Gooch; Lady Walston; Sir John and Lady Brooke; Sir James and Lady Jeans; Sir Cecil and Lady Harcourt Smith; Sir Frederick and Lady Keeble; Sir Josiah and Lady Stamp; Sir Jonah and Lady Walker-Smith; Sir Austen and Lady Chamberlain; Sir Harold and Lady Bellman; Sir John Squire; Sir Herbert and Lady Samuel; Sir Henry Maybury; Sir George Humphreys; Sir Edward and Lady Crowe; Sir Robert and Lady Robertson; Sir Gerald and Lady Wollaston; Sir Henry and Lady Norman; Field-Marshal Sir Claud and Lady Jacob; Sir David Milne-Watson; Sir Clement and Lady Kinloch-Cooke; Sir Richard A. S. Paget; Sir Philip and Lady Stott; Sir Francis Oppenheimer; Sir Ernest and Lady Benn; Sir Ernest and Lady Graham-Little; Sir Robert Armstrong-Jones; Lady Winefride Elwes; Dame R. Crowley; Sir George Clausen; Sir Francis and Lady Goodenough; Sir Hugh and Lady Turnbull; Sir Walter Russell; Sir Frank Heath; Sir Courtauld Thomson; Sir Cosmo Parkinson; Sir Richard Gregory; Mr. and Mrs. H. Chalton Bradshaw; Miss Rose Rosenberg; Mr. J. P. Bushe-Fox; Mr. C. L. Stocks; Mr. William Leitch; Mr. F. J. E. Raby; Mr. F. J. Root; Mr. and Mrs. R. P. Bedford; Major and Mrs. A. A. Longden; Sir Ian MacAlister, Secretary R.I.B.A., and Lady MacAlister;

Mr. R. T. D. Acland, M.P.; Lt.-Col. T. C. R. Moore, M.P., and Mrs. Moore; Mr. and Mrs. H. Baily; Mr. and Mrs. G. L. Head; Mr. D. W. Beck; Mr. and Mrs. G. W. Jackson; Mr. A. E. V. Newnham; Mr. R. S. Wood; Mr. J. Gordon Elsworth; Mr. Norman Scorgie; Mr. Nandy Hoskins; Mr. and Mrs. R. L. Roberts; Mr. F. S. Orme and Miss McElderry; Mr. Stanley Casson; Dr. Wells Coates; Mr. and Mrs. Laurence Binyon; Mr. E. V. Knox; Mr. J. A. N. Barlow; Mr. H. A. Gwynne; Professor and Mrs. J. W. Mackail; Mr. and Mrs. H. W. Nevinson; Mr. and Mrs. G. L. Pepler; Mr. John Penoyre; Miss Megan Lloyd George, M.P.; Mr. and Mrs. H. Greville Montgomery; Mr. Raymond Walker; Mr. and Mrs. A. Randall Wells; Mr. and Mrs. Frank Roscoe; Mr. and Mrs. H. Nevil Smart; Mr. and Mrs. H. G. F. Archer; Dr. and Mrs. H. Bashford; Mr. G. R. Blanco-White, K.C., and Mrs. Blanco-White; Mr. Bertram Christian, J.P., and Mrs. Christian; Mr. and Mrs. A. D. Connell; Mr. and Mrs. A. D. Divine; Mr. and Mrs. Christopher Eastwood; Mr. and Mrs. H. G. Evans; Mr. Arnold and Lady Mabel Lunn; Major and Mrs. W. L. E. Reynolds; Mr. Cecil Roberts; Mr. and Mrs. R. A.

Scott-James; Mr. and Mrs. G. A. Wathen; Mr. W. L. Wood; Lt.-Col. and Madame George P. Vanier; Mr. and Mrs. Hugh Wilson; Mr. and Mrs. H. Berry; Captain Sydney E. Redfern; Mr. and Mrs. H. S. Thornton; Mr. G. H. Jack; Mr. A. D. Millar; Mr. Hanslip Fletcher; Dr. and Mrs. Walter Gropius; Mr. and Mrs. Erich Mendelsohn; Miss Elizabeth Denby; Mr. and Mrs. Ernest Gillick; Mr. and Mrs. A. F. Hardiman; Mr. Gilbert Ledward; Mr. and Mrs. Sydney Lee; Mr. Charles Wheeler; Professor and Mrs. Bernard Ashmole; Mr. W. T. Creswell, K.C.; Mr. Charles Marriott; Mr. J. S. Wilson; Miss L. Kemp-Welch; Mr. and Mrs. James Shand; Dr. and Mrs. H. Spencer Jones; Mr. and Mrs. T. C. Dugdale; Mr. Algernon Newton; Miss Margaret Tatton; Professor and Miss Eleanor Hamilton Thompson; Mr. D. G. Somerville, M.P.; Mr. and Mrs. C. A. Lucas; Mr. H. de C. Hastings; Mr. Gerald Moira; Mr. Frank Pick; Mr. and Mrs. John Gloag; Mr. Clauson; Mr., Mrs. and Miss Spowart; Mrs. L. Coke; Mrs. Anning Bell; Mr. Langford Moyle; Mr. F. Selley; Miss Joan MacAlister; Miss Dorothy MacAlister; Sir Giles Scott, R.A., and Lady Scott; Sir Raymond and Lady Unwin; Sir A. Brumwell Thomas and Miss Thomas; Mr. and Mrs. Henry M. Fletcher; Mr. Ingalt Sanders and Mrs. Sanders; Mr. W. H. Ansell and Mrs. Ansell; Mr. and Mrs. Stanley Hamp; Mr. and Mrs. Victor Bain; Professor A. E. Richardson; Mr. Hugo R. Bird; Mr. T. A. Darcy Braddell; Mr. Maurice E. Webb; Mr. P. D. Hepworth; Mr. and Mrs. H. V. Lan- chester; Mr. H. V. Ashley; Mr. G. Grey Wornum; Mr. E. Maxwell Fry; Mr. T. S. Tait; Mr. C. Lovett Gill; Mr. Robert Atkinson; Professor S. D. Adshad; Mr. and Mrs. Oswald P. Milne; Mr. L. H. Bucknell; Mr. A. B. Knapp-Fisher; Mr. and Mrs. J. Hubert Worthington; Mr. Martin A. Buckmaster; Mr. G. A. Jellicoe; Mr. E. W. Armstrong; Mr. and Mrs. Basil R. Ward; Mr. Geoffrey C. Wilson; Mr. and Mrs. Percy J. Waldram; Mr. Gilbert H. Jenkins; Mr. Verner O. Rees; Alderman G. A. Lansdown, J.P., and Mrs. Lansdown; Mr. and Mrs. Ernest B. Glanfield; Mr. and Mrs. Hugh Wilson; Mr. H. O. Corfiato; Mr. and Mrs. Victor Wilkins; Mr. and Mrs. D. Theodore Fyfe; Mr. Hubert Lidbetter; Mr. Alister G. MacDonald; Mr. J. Murray Easton; Mrs. Edward Unwin; Mr. Herbert W. Matthews; Mr. C. H. Gale; Mr. J. C. Dewhurst and Miss Dewhurst; Mr. Richard B. Ling; Mr. B. John M. Morgan; Mr. Frank Potter; Mr. R. Johnston; Mr. G. Howard Jones; Mr. G. Mackenzie Trench; Mr. John Swarbrick; Mr. G. L. M. Jenkins; Mr. Malcolm W. Matts; Miss Anne Farewell Jones; Mr. R. Theodore Beck; Miss Jocelyn Frere Abram; Mr. and Mrs. A. N. Cathcart; Mr. R. B. Selby; Mr. C. Max Lock; Mr. and Mrs. Herbert Cescinsky; Mr. Frank Scarlett; Mr. A. B. Mendis; Mr. Herbert A. Legge; Mr. and Mrs. Thos. P. Tinslay; Mr. J. C. F. James; Mr. Kenneth Nealon; Mr. W. H. Knowles; Mr. S. H. Loweth; Mr. and Mrs. W. A. Cole-Adams; Mr. Rodney F. Tatchell; Mr. and Mrs. Max R. Hoffer; Mr. Reginald H. Uren; Mr. Rees Phillips; Mr. L. Mason Apps; Mr. Waldo Maitland; Mr. and Mrs. D. M. Laird; Mr. Laurence King; Mr. M. J. H. Somake; Mr. and Mrs. T. Hansford White; Mrs. Clayton Heslop; Mr. and Mrs. A. H. Honikman; Mr. Hugh Davies; Mr. C. Ernest Elcock; Mr. Walter Alexander; Mr. L. W. Thornton White; Mr. H. Austen Hall; Mr. and Mrs. E. P. Warren; Mrs. Peel; Mr. and Mrs. Herbert A. Welch and the Misses Judy and Diana Welch; Mr. H. Elwig; Mr. M. P. S. Hatherell; Mr. J. D. Hossack; Mr. and Mrs. John Atkinson; Mr. Percival M. Fraser; Miss Monica Hedley-Jeff;

Mr. C. D. Spragg; Mr. and Mrs. Everard J. Haynes; Mr. and Mrs. Edward J. Carter; Mr. and Mrs. Eric L. Bird; Mr. and Mrs. George Marfell; Mr. E. O'Shaughnessy; Mr. W. P. Steel; Mr. F. G. Baker.



Correspondence

EDUCATION AND CIVIC ARCHITECTURE

100 New Towns Association,
23, Grosvenor Place, S.W.1.

22.6.36.

To the Editor, JOURNAL R.I.B.A.

DEAR SIR.—The controversy on architectural education raises so many important issues that in a brief letter there is space to touch upon only a few of them. I venture to make the following comments which are stimulated not only by your correspondence, but by some articles and reports recently published in your pages.

In Mr. Patrick Wilson's letter (p. 607) he says: "Surely no one of intelligence wants, or ever suggested, bringing politics, as such, into architecture. We merely want to take architecture into practical politics." This is undoubtedly the right attitude, but it is not being adopted by those now clamouring for the inclusion of subjects such as economics in the curriculum of architectural schools. I foresee a serious danger in this inclusion. The chances are that in the opinion of many members of the Institute the economics taught would be the wrong economics. There would be a serious schism which might result in wholesale resignations from the Institute. Before architects can, in Mr. Wilson's excellent phrase, bring architecture into politics, they must in the first place know what architecture is. The high function of the R.I.B.A. is by precept and example to explain the nature of this thing called architecture, which it is desirable to bring into politics. Architecture is above economics. Architects cannot without derogation of their honour accept unprotestingly forms of building which, owing to existing economic conditions, fall short of the highest social and aesthetic ideals.

Mr. Skinner (see p. 606) pleads for a closer liaison between architects and engineers, without which there is "an entire neglect of modern building methods in architectural design and its reduction to mere decoration, or else a sort of blind worship of the engineer (very common among young architects and students) which is equivalent to a negation of architecture." I should have thought that during the last thirty years architects and students have heard, if anything, too much about the paramount importance of construction. The doctrine ought never to have been allowed to achieve a status other than that which belongs to a platitude. In designing a new building, instead of beginning with the engineering side, may I suggest that the correct procedure is to tackle the problem from the other end? First, we must have in mind the formal harmony of the township in which the building is situated, and make sure the design will contribute to that harmony. In my opinion at least 75 per cent. of the time spent at architectural schools should be devoted to this problem, for not only the prestige of the architectural profession itself, but our reputation as a civilised nation depends upon our ability to solve it. Having determined the general shape of the building by considering its relationship to the town as a whole, within that shape we plan the rooms. Thus the modernist doctrine of planning the building "from the inside outwards" is thoroughly perverse. If there is to be such a thing as civic manners we must design "from the outside inwards." Had

the R.I.B.A. building been in the midst of the country it might have had wings sprawling in all directions, but in point of fact the required accommodation is just as well planned within the cubical box in alignment with Portland Place.

After conveniently disposing of the rooms within the building, the shape of which is determined by considerations of civic design, we then *dress up* the building. This may seem a monstrous procedure, but buildings can no more afford to be completely naked than can human beings. Instead of inviting an engineer to come on the staff of architectural schools, let us invite a costumier, and give him at least six hours a week in which to formulate the method whereby the art of architecture could express the same grasp of the meaning of social convention as is shown by the more mature art of dress. It is not enough for function to be expressed, it must be made recognisable by a symbol. In entering some of our modernist buildings I have the same kind of resentment as I should feel if I were arrested by a policeman in plain clothes.

This point concerning the need for symbols was admirably brought out by Mr. E. J. Carter (see p. 700) during the debate following Mr. Dod's paper on libraries. He says that architecture down the years has produced a type of building which can be recognised as a church, and a type of building which can be immediately recognised as a railway and so on, but he laments that "we have as yet no type of simple, straightforward building the face of which would proclaim it as a library into which people wanted to go." The spire, however, is no more functional than the policeman's helmet; it is an agreed symbol. By the establishment of recognisable symbols for various important types of building, the true expressiveness of civic architecture would be greatly enhanced. But these symbols cannot be the invention of the architectural profession alone. By a procedure which I have not space here to discuss, the general public must have a share in the determination of them.

It is the complete failure to acknowledge civic values which renders the Le Corbusier skyscraper proposals so completely unacceptable. Yet on p. 598 we find Mr. Godfrey Samuel trying to persuade the London County Council to adopt this method. Such skyscrapers, whether commercial or residential, would completely overbear all the public buildings, including St. Paul's Cathedral, Westminster Abbey and the Houses of Parliament, and thus belittle the architectural symbols of Church and State. These skyscrapers would be nothing more than a nine days' wonder which would only appeal to an ignorant romanticism. Nor is it a convincing argument that there is no other alternative to the skyscraper proposal than suburbia in "open development." Mr. Samuel tells us that the Plan Voisin provides for a hundred families per acre. I have discovered that it is quite possible to design self-contained three-bedroomed houses at the same density of a hundred to the acre. These houses might be suitable for built-up areas in existing towns where land is exceptionally costly. The rooms, of ample size, are well-ventilated, and each house has its own front door opening

on to the street playground. Whether these houses would be more acceptable to the slum dwellers than are the tenements now being provided for them, it should be for the slum dwellers themselves to decide. They should also be given the opportunity of deciding whether they would like to go to new towns. Their answer to this question would depend largely upon the degree in which they have a share in determining the character of the new towns. These matters cannot be arranged by bureaucratic methods alone. The people are getting tired of housing "experts" with dictator complexes. Mr. Samuel describes those in favour of urban decentralisation as "escapists." Of course, they are; they wish to escape from a noisy, congested town so that they may create ideal urban conditions elsewhere. Decentralisation would make possible the remodelling of old towns without upsetting their civic balance by the ill-considered policy of building upwards.

Yours faithfully,

A. TRYSTAN EDWARDS [F.]

ARCHITECTURAL COMPETITIONS: QUESTIONS AND ANSWERS

*The Vicarage,
Burgh, Lincs.*

21.5.36.

To the Editor, JOURNAL R.I.B.A.

SIR,—A great deal of time and money is wasted in architectural competitions by reason of the custom of inviting questions from competitors.

Surely assessors could be found with sufficient competent knowledge and experience to draw up conditions of competition that are clear and comprehensive enough to contain all the information necessary for the preparation of first-class schemes.

It is an intolerable burden on the busy "serious" com-

petitor to have his plans held up for several weeks while an assessor is wading through some two or three hundred questions raised by unthinking and inexperienced would-be rivals on matters that are, in most cases, of no import whatever.

There appears to exist a large class of architects which enjoys a smug feeling of self-importance from seeing its inane questions—with answers—in a printed pamphlet. "Left to competitors," "See answer to number so-and-so" are the chief answers in any set of Q. & A.

The wise competitor, naturally, never asks a question. It is obvious to him that if he has a really important point to raise, he will but be giving his rivals a "good tip" by a king about it. He prefers to thrash it out for himself. And, if he sees an apparent contradiction in the conditions, he leaves it confidently to come naive youngster to air it. Occasionally a competitor will foolishly draw attention to something that, if he had any "nous," he would have left alone, for he is really helping, not himself, but someone else, to win!

In some forty years of competition activity I have never got any help—except from other competitors—through questions and answers. Only once have I been called upon to act as an assessor, and then I took pains to give no opportunity to waste my own or competitors' time or my clients' money by allowing any questions to be raised. And I never heard of any complaints.

If the Competitions Committee of the R.I.B.A. would only impress upon assessors and promoters the absolute futility of this system of "Questions and Answers," and the saving in time and money that would be effected by abolishing it, they would deserve the gratitude of all who participate in the great gamble of architectural competitions.

Yours, etc.,

G. H. WENYON [F.]

Notes

VISIT TO THE BUILDING RESEARCH STATION

A general visit to the Building Research Station at Garston, near Watford, has been arranged to take place on Thursday, 18 June, in the afternoon.

A fast train leaves Euston Station at 2.5 p.m., and cheap day return tickets are available at 2s. 2d. (third class). Those travelling by train will assemble outside *Watford Junction* station at 2.40 p.m., and it is hoped that members travelling by car and able to take a passenger or passengers will meet the party there.

All members of the Institute are invited to take part in the visit and to bring friends.

No tickets are required for the visit, but those intending to take part are particularly requested to inform the Hon. Secretary of the Science Standing Committee (at the R.I.B.A.), by not later than Saturday, 13 June, in order to facilitate the necessary arrangements at the Research Station.

CHARTERED SURVEYORS

MR. J. M. THEOBALD APPOINTED PRESIDENT

Mr. J. M. Theobald, a quantity surveyor (Messrs. Gardiner and Theobald), has been elected President of the Chartered Surveyors' Institution, in succession to Mr. H. M. Stanley.

Mr. Theobald is a member of the joint committee of Architects and Quantity Surveyors.

MINISTRY OF HEALTH

TOWN AND COUNTRY PLANNING

The Town and Country Planning Division of the Ministry of Health have moved from Whitehall to Inveresk House in the Strand, and in future all communications should be addressed to the Secretary, Ministry of Health, Town and Country Planning Division, Inveresk House, Strand, W.C.2. The telephone number is Temple Bar 9358.

MR. G. W. TICKLE [F.]

During the absence on leave from Hong Kong of the Hon. Richard McNeil Henderson, Director of Public Works, Mr. George Warnham Tickle [F.] has been appointed by the Governor to act as Director of Public Works; during the same period Mr. Tickle has been appointed temporarily to be a member of the Executive and Legislative Councils. He has also been appointed a member of the Housing Commission in the place of the Hon. R. McN. Henderson.

R.I.B.A. NEW BUILDING FUND

LIST OF CONTRIBUTIONS RECEIVED OR PROMISED

	£	s.	d.
Brought forward ..	14,010	4	3
Noel Dawson (F.) ..	10	0	0
W. F. Hedges (F.) ..	5	5	0
Geo. McLean (A.) ..	1	1	0
John F. L. Mercer (Student) ..	2	2	0

In addition, the following Allied Societies have made the following further contributions under the arrangement whereby for a limited number of years a percentage of the annual contributions paid by the R.I.B.A. to the Societies in respect of the R.I.B.A. members thereof will be credited to the Fund:—*

Devon and Cornwall Architectural Society ..	0	12	7
Glasgow Institute of Architects ..	1	4	6
Liverpool Architectural Society ..	0	5	7
Manchester Society of Architects ..	27	13	0
Northern Architectural Association ..	0	2	1
Nottingham, Derby and Lincoln Architectural Society ..	0	7	1
*The Building Fund is credited with an agreed percentage in respect of the subscriptions paid by London members which for 1935 amounts to ..	230	17	11
(This brings the total thus credited to £866 15s. 6d.)			

Less refunded to Wessex Society of Architects .. 0 4 0

TOTAL RECEIVED AND PROMISED TO 23 MAY 1936 .. £14,289 11 0

TOUR TO THE U.S.S.R. FOR ARCHITECTS AND TOWN PLANNERS

11 JULY—2 AUGUST

The Society for Cultural Relations with the U.S.S.R. are organising a three weeks' tour to Leningrad and Moscow, with an optional extension, making a four weeks' tour to Kharkov, Dneprogress and Kiev, so that there may be an opportunity to study the new Russian architecture and town-planning schemes. The cost for the three-weeks' tour is 2nd class, £36; 3rd class, £22; and of the four-weeks' tour, 2nd class, £52; 3rd class, £31. All enquiries should be addressed to the Secretary of the Society, 3, Bedford Place, W.C.1.

NOTES FROM THE MINUTES OF THE COUNCIL

11 May 1936

THE EMPLOYMENT OF ARCHITECTS ON PUBLIC BUILDING WORKS
The President briefly reported regarding the reception of a deputation by the Minister of Health on 7 May. A full report of the proceedings was published in the last JOURNAL for the information of members.

THE EMPLOYMENT OF ARCHITECTS IN THE SCHEME FOR CO-ORDINATING MEANS OF NATIONAL DEFENCE

A letter was addressed to Sir Thomas Inskip, Minister for the Co-ordination of Means of Defence, urging the employment of architects on the numerous buildings which will be required by the Defence Forces in consequence of the expansion of the Forces recently decided upon by the Government and offering the help of the Institute in this connection.

Mr. E. VINCENT HARRIS, A.R.A.

The cordial congratulations of the Council have been conveyed to Mr. E. Vincent Harris [F.] upon his election as an Associate of the Royal Academy.

THE R.I.B.A. LONDON ARCHITECTURE BRONZE MEDAL

The award of the Jury in favour of Hornsey Town Hall, The Broadway, Crouch End, N.8, designed by Mr. Reginald H. Uren [A.], was formally reported.

R.I.B.A. ARCHITECTURE BRONZE MEDALS: SOUTH WALES INSTITUTE OF ARCHITECTS

The award of the Jury in favour of the Guildhall, Swansea, designed by Mr. Percy Thomas, O.B.E., President R.I.B.A., of Messrs. Ivor Jones and Percy Thomas, was formally approved.

THE R.I.B.A. STATUTORY EXAMINATION FOR DISTRICT SURVEYORS, APRIL, 1936

The Board of Architectural Education reported that at the Examination held in April five candidates sat, of whom the following were successful:—

Dean, Philip Thomas.
Clarke, Donald Duncan Joseph.

THE R.I.B.A. EXAMINATION FOR BUILDING SURVEYORS, APRIL 1936

The Board reported that two candidates sat for this examination and that the following was successful:—

Wyld, John Richard.

INTERNATIONAL HOSPITAL ASSOCIATION

It was decided to accept membership of the International Hospital Association, and Mr. E. Stanley Hall (Vice-President), and Mr. Lionel G. Pearson [F.] were appointed as the R.I.B.A. representatives on the United Kingdom (Provisional) Council.

PRESENTATION OF MODEL OF EASTON NESTON

On the recommendation of the Literature Standing Committee it was decided to accept Lord Hesketh's kind offer to present a model of Easton Neston.

1931 FORM OF CONTRACT: CLAUSE 18

On the recommendation of the Practice Standing Committee it was decided to obtain Counsel's opinion on the interpretation of Clause 18 of the 1931 Form of Contract.

MEMBERSHIP

The following members were elected:—

As Hon. Associate ..	1
As Hon. Corresponding Members ..	4
As Fellows ..	4
As Associates ..	13
As Licentiates ..	6

Election, 22 June 1936

Applications for membership were approved as follows:—

As Fellows ..	4 applications
As Associates ..	17 "
As Licentiates ..	7 "

Reinstatements

The following ex-members were reinstated:—

As Associates: Francis Henry Heppel.
Alexander Steele.
William Norman Worrall.

Transfer to the Retired Members Class

The following member was transferred to the Retired Members Class:—

As Retired Associate: Charles Alfred Geen.

Resignations

The following resignations were accepted with regret:—

Francis Milverton Drake [F.].
William John Paterson Cox [A.].

INTERNATIONAL FRIENDSHIP LEAGUE

We have been asked to assist the organisation called the International Friendship League, who are intending to entertain some young people from the Continent from 25 July to 5 September. They are anxious to get a few people to act as guides in and around London, and would be glad if volunteers would write to Mr. A. J. Langford, 27 Highbury Quadrant, London, N.5.

ALLIED SOCIETIES

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND

A Council Meeting of the above body was held on 17 April 1936. The President, Mr. H. Allberry [A.] occupied the chair. The following were also present:—Messrs. W. H. Howard Cooke, Edwin Bradbury, Frederick Hayes, J. V. Downes, Louis F. Giron, R. M. Butler, T. F. Strahan, C. A. Harrington, James H. Webb, Vincent Kelly, H. V. Millar, T. J. Byrne, J. J. Robinson, and R. C. Keefe (Hon. Secretary).

An acknowledgment from President de Valera of the Council's resolution of sympathy in his bereavement was read.

Correspondence from the Department of Industry and Commerce, the National Agricultural and Industrial Development Association, and the Architectural Graduates' Association, N.U.I., was read, also a communication from the southern members in connection with the growing practice of public bodies to advertise for applications from architects to carry out certain works. A letter from the Saorstát Eireann Federation of Building Trades Employers relating to the proposed new Conditions of Contract was read, and it was decided that further consideration of the matter should be deferred until the original proposal that representatives of the Federation and the Institute should jointly discuss the revisions had been implemented.

It was decided to refer a suggestion to revise the Regulations governing the promotion and conduct of Architectural Competitions to the Professional Practice Committee.

The Hon. Secretary, Board of Architectural Education, reported that no award had been made in connection with the Travelling Scholarship for 1936, but on the assessors' recommendation exemption from submitting testimonies to study for the final examination was granted to Messrs. Brendan Ellis, D. J. Maguire, Dermot B. O'Rourke and Miss E. F. Sides.

A report of the joint committee of the representatives of the Institute, the Chartered Surveyors' Institution, and the Irish Quantity Surveyors' Association was considered, and it was decided that before circularising the members the views of the Master Builders' Association should be obtained.

The question of the Triennial Gold Medal for the best completed building in Ireland in any triennial period was deferred until the next Council meeting.

WEST YORKSHIRE SOCIETY

ANNUAL EXCURSION

On Thursday, 21 May, the Society held its annual excursion under the leadership of the president, Mr. C. E. Fox, F.S.I. [F.]. The party, consisting of over forty members and friends, first visited Shibden Hall, Halifax, a well-preserved early 15th century half-timbered manor house, probably the oldest unaltered building of its type. Traces of designs in colour were seen on beams and plaster walls, showing that the popular belief that interior surfaces were left untreated is unfounded.

After lunch in Halifax the party proceeded on a circular tour in the Halifax district, halting at places of interest. The itinerary included Hardcastle Crag, Gorpel and Heptonstall, the Roman road on Blackstone Edge which has been recently uncovered, the concrete dam at Ryeburn Reservoir, Barkisland Hall and Clay House. After driving approximately forty miles members returned to Halifax, where they were entertained to tea by the president.

SOUTH-EASTERN SOCIETY

VISIT TO BELGIUM—24 JULY

The success of the cruise to Antwerp and Brussels last year has evoked so many requests for other cruises that the S.E.S.A. is organising a week-end visit this year to Ghent and Zeebrugge.

The railway company has given an option on 100 reservations at a reduced rate of £3 8s. 6d.

VISIT TO RUSSIA—15 AUGUST

A visit to Russia is being planned to leave London by steamer on Saturday, 15 August, and to arrive in Leningrad the following Thursday. Visits will be made to Moscow, Kharkov, Sevastopol, Yalta, Odessa, Kiev. The return from Leningrad will be on 27 August.

School Notes

MANCHESTER SCHOOL OF ARCHITECTURE

EXHIBITION OF WORK

The School held an exhibition of students' work in March, at which Sir Percy Worthington, who opened the exhibition, spoke on the object of architectural training. He said that students should learn to understand the fundamentals in architecture, and to base their work on these fundamentals. They would then be able to bring order out of the chaos of modern building and take their proper place beside the engineer in using modern materials.

"Your object is to see that the principles of beauty are not forgotten," he said. "Learn all you can and apply it to new conditions. Shear off everything superfluous if you like. A building like Mr. Holden's Underground headquarters in London may already appear old-fashioned to you, but you can learn from it balance of mass, fenestration and emphasis."

Sir Percy congratulated the students, Mr. F. Chippindale, head of the School of Architecture, and the staff, on the work exhibited.

Councillor A. P. Simon, chairman of the School of Art Committee, presided, and the speakers included Mr. R. A.

Dawson, principal of the School of Art, Councillor T. R. Ackroyd, and the Rev. W. S. Robinson, rector of St. Mary's, Hulme.

WELSH SCHOOL OF ARCHITECTURE

VISIT TO LONDON

A party of students and staff of the Welsh School of Architecture, the Technical College, Cardiff, spent an interesting and instructive day in London on Friday, 15 May.

In the morning they inspected the Building Centre under the guidance of the Director, Mr. F. R. Yerbury [Hon. A.].

The party then visited the Architectural Association School of Architecture, where they were the guests of the A.A. at lunch, after which they inspected the premises and saw an exhibition of the work of senior students, Mr. Thornton White (Vice-Principal) and Mr. E. R. Jarrett (the Warden) showing the party round. Later in the afternoon the new headquarters of the R.I.B.A. were inspected under the guidance of Mr. E. J. Carter, R.I.B.A. Librarian.

The party was in the charge of Mr. Lewis John, M.A. [A.], who expressed the thanks of the School for the hospitality shown at the various Centres.

Notices

THE TWELFTH GENERAL MEETING, MONDAY, 22 JUNE 1936 AT 8 P.M.

The Twelfth General Meeting of the Session 1935-1936 will be held on Monday, 22 June 1936 at 8 p.m. for the following purposes:—

To read the Minutes of the Annual General Meeting held on 11 May 1936; formally to admit members attending for the first time since their election.

To read the report of the Scrutineers appointed to examine the voting papers for the election of the Council and Standing Committees for the Session 1936-1937.

Colonel W. Garforth, D.S.O., M.C., of the Home Office, to give a short talk on "A Few Principles of Protection in Air Raids."

INFORMAL DISCUSSION ON MATTERS OF PROFESSIONAL INTEREST

At the conclusion of the above General Meeting there will be an informal and private discussion on matters of current professional interest or concern. Members are invited to bring up for discussion, with or without notice, subjects of professional interest or difficulty.

BRITISH ARCHITECTS' CONFERENCE, SOUTHAMPTON, 24-27 JUNE 1936

Final arrangements for all the events of the Conference are now being made. It is hoped that all members and students who have not already done so will at once refer to the programme sent to them with the issue of the JOURNAL for 25 April and send in their names without delay and in any case *not later than Saturday, 13 June*, for such of the events as they desire to take part in.

It is expected that there will be a large attendance of members from all parts of the country, and they are urgently requested to arrange for their hotel accommodation at the earliest possible date so as to avoid the risk of disappointment.

The Executive Committee of the Conference have kindly furnished a list of hotels, with charges, together with a plan of Southampton showing the position of hotels, Conference Centres, etc. Copies of these may be obtained on application to the Secretary R.I.B.A.

Members of the R.I.B.A. and the Allied Societies who are officials of local authorities will be cordially welcomed as delegates to the Conference.

THE ELECTION OF THE R.I.B.A. COUNCIL

At the meeting of the Council held on 6 April a resolution was passed deprecating the canvassing of votes at R.I.B.A. Council elections, and it was agreed to publish a note in the JOURNAL informing members of this resolution.

EXHIBITION OF PHOTOGRAPHS OF PERSIAN ARCHITECTURE

An exhibition of photographs, organised by the American Institute of Persian Art and Archaeology, to represent the latest work of the Institute's architectural survey will be held at the R.I.B.A. from 9 June to 26 June. The exhibition

will be opened at 3.30 p.m. on Tuesday, 9 June by His Excellency the Iranian Minister, M. Hussein Ala, C.M.G.

The exhibition will be open daily between the hours of 10 a.m. and 8 p.m. (Saturdays 10 a.m. and 5 p.m.).

ROME SCHOLARSHIP IN ARCHITECTURE EXHIBITION OF FINAL COMPETITION DESIGNS

The designs submitted in the Final Competitions for the Rome Scholarship in Architecture will be on exhibition at the R.I.B.A. from Monday, 15 June to Saturday, 20 June between the hours of 10 a.m. and 8 p.m. (Saturday 10 a.m. and 5 p.m.). The scholarship is provided by the Royal Institute of British Architects, which makes a grant of £750 a year to the British School at Rome. It is awarded by the Faculty of Architecture of the British School at Rome, and is keenly contested annually by the most brilliant students selected from the various architectural schools in the country. The scholar is required to go to Rome to study for a period of two or three years at the British School at Rome. This year the subject of the competition was "A Centre of International Justice."

PROFESSIONAL ADVERTISING

The attention of the Practice Standing Committee has been drawn to the fact that the publishers of certain journals are approaching architects for details of their professional activities, which the publishers propose to embody in the editorial columns of their journals. In the case of one particular firm of publishers, several members forwarded to the Institute the proposed article as drafted by the editor and sent to the architects for any additions or amendments the architects desire. In each case the wording of the articles is identical, with the exception of the names and addresses of the firms of architects to whom they were sent.

The Committee desire to warn members generally against this undesirable form of publicity. The acceptance by members of invitations of this nature from firms of publishers is, in the opinion of the Committee, directly contrary to the Code of Professional Practice and tantamount to advertising.

ARCHITECTS' AND SURVEYORS' FEES IN CLAIMS UNDER FIRE INSURANCE POLICIES

The Practice Standing Committee of the R.I.B.A., in conjunction with representatives of the Chartered Surveyors' Institution, have had under consideration the question of professional fees in connection with reinstatements after fire.

No difficulty arises in connection with a fire in a building in course of erection because the building contract provides for such occurrences. It is in connection with a fire in an existing building that difficulties are likely to arise, owing to the policy being frequently indefinite in its terms. The ordinary insurer of a building in many cases does not realise that, although the services of an architect and a quantity surveyor and sometimes a clerk of works are normally essential to a rebuilding owner, unless he is specifically covered against these fees they do not form part of the Insurance company's liability for payment in the case of partial or complete destruction of the building; and in many cases the insurer is not aware of this until it is too late.

In the interests of both themselves and their clients members are advised to take every possible step to ensure that fees for professional services are specifically covered in fire insurance policies.

1931 FORM OF CONTRACT AND INSURANCES

The attention of members is drawn to the fact that Clause 16 of the 1931 Form of Contract does not indemnify the employer against injuries to persons as a result of any act or negligence on the part of the employer or his servants, nor can the contractor be held liable for any damage to property due to circumstances not within his control.

The Practice Standing Committee, therefore, in informing members of this position, would urge upon them the importance of drawing the attention of their clients to the matter each time a contract is entered into, in order that the necessary steps may be taken to insure against such contingencies.

ARCHITECTURAL COMPETITIONS

ASSESSORS' AWARDS

All architects who take part in architectural competitions are reminded by the Council of the R.I.B.A. that participation in a competition is a definite acceptance of the principle that the award of the assessor is final and binding upon themselves as well as upon the promoters, and that any competitor who feels that he has real ground for dissatisfaction with an assessor's award should communicate with the Secretary of the R.I.B.A.

Further, all architects, whether competitors or otherwise, are reminded that discussion of correspondence in the public or professional Press which tends to criticism or disparagement of an assessor or award cannot alter the final and binding effect of the award, but may prejudice architects and the whole competition system in the opinion of the public, and is, therefore, highly undesirable.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 19 October 1936 they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 4 July.

LICENTIATES AND THE FELLOWSHIP

The attention of Licentiates is called to the provisions of Section IV, Clause 4 (b) and (c), of the Supplemental Charter of 1925. Licentiates who are eligible and desirous of transferring to the Fellowship can obtain full particulars on application to the Secretary R.I.B.A., stating the clause under which they propose to apply for nomination.

OVERSEAS APPOINTMENTS

When members are contemplating applying for appointments overseas they are recommended to communicate with the Secretary R.I.B.A., who will supply them with any available information respecting conditions of employment, cost of living, climatic conditions, etc.

APPOINTMENT AS DRAUGHTSMAN IN THE PUBLIC WORKS DEPARTMENT, KHARTOUM

A member of the Institute with 12 years' experience in the Public Works Department of the Sudan Government has kindly furnished information regarding conditions of employment and social conditions in the Sudan.

Members and Students who have applied, or who intend applying, for the appointment of Draughtsman in the P.W.D., Khartoum, advertised in the press by the London Office of the Sudan Government, are invited to apply to the Secretary, R.I.B.A., who will be pleased to send them a copy of the particulars furnished.

CESSATION OF MEMBERSHIP

Under the provisions of Bye-law 21 the following has ceased to be a member of the Royal Institute:—

As Associate: William Grindlay Lawrie.

Competitions

The Council and Competitions Committee wish to remind members and members of Allied Societies that it is their duty to refuse to take part in competitions unless the conditions are in conformity with the R.I.B.A. Regulations for the Conduct of Architectural Competitions and have been approved by the Institute.

While, in the case of small limited private competitions, modifications of the R.I.B.A. Regulations may be approved, it is the duty of members who are asked to take part in a limited competition to notify the Secretary of the R.I.B.A. immediately, submitting particulars of the competition. This requirement now forms part of the Code of Professional Practice in which it is ruled that a formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

COMPETITION FOR SCHEME FOR IMPROVING LAY-OUT OF CLEETHORPES PIER GARDENS, ETC.

The Competitions Committee desire to call the attention of members to the fact that the conditions of the above competition are not in accordance with the regulations of the Town Planning Institute, which also govern all members of the R.I.B.A. and its Allied Societies.

The Town Planning Institute are in negotiation with the promoters in the hope of securing an amendment. In the meantime members should not take part in the competition.

ASCOT GAS WATER HEATERS, LTD.: EXHIBITION STAND FOR OLYMPIA

Messrs. Ascot Gas Water Heaters, Ltd., are holding a competition, open to British subjects who are members of the architectural profession, for a design for an Exhibition Stand for the Building Trades Exhibition at Olympia in September, 1936.

Assessors: Mr. Keith D. P. Murray [A.].

Mr. G. Grey Wornum [F.].

Mr. F. R. Yerbury [Hon. A.].

Premiums: £100, £25, and £5.

Last day for receiving designs: 6 July 1936.

Conditions of the competition may be obtained on application to Ascot Gas Water Heaters, Ltd., 244 High Holborn, London, W.C.1.

BARKING: NEW TOWN HALL AND MUNICIPAL BUILDINGS

The Barking Corporation invite architects practising in the United Kingdom to submit in competition designs for a new Town Hall and Municipal Buildings to be erected at a cost not exceeding £160,000.

Assessor: Mr. H. V. Lanchester [F.].

Premiums: £500, £250 and a further £200 to be awarded as recommended by the Assessor.

Last day for receiving designs: 14 September 1936.

Last day for questions: 1 May 1936.

Conditions of the competition may be obtained on application to Mr. S. A. Jewers, Town Clerk, Town Hall, Barking. Deposit £2 2s.

BELFAST: NEW WATER OFFICES

The Belfast City and District Water Commissioners are proposing to hold a competition for new Office Buildings and Mr. H. Austen Hall [F.] has been appointed to act as Assessor. Conditions are not yet available.

BIRMINGHAM: NEW CENTRAL TECHNICAL COLLEGE, ETC.

The Corporation of the City of Birmingham are to hold a competition for a new Central Technical College, Commercial College and School of Arts and Crafts. Mr. J. R. Adamson [F.] has been appointed to act as Assessor and the premiums to be offered will be £750, £500 and £250. Conditions will be issued in the near future.

BIRMINGHAM: WORKING-CLASS FLATS

The Public Works and Town Planning Committee of the City of Birmingham invite architects of British nationality practising in the British Isles to submit in competition designs for working-class flats to be erected in concrete on the Emily Street and Vaughton Street area.

Assessor: Mr. Louis de Soissons, O.B.E., S.A.D.G. [F].
 Premiums: £400, £250, £150, and £100.
 Last day for receiving designs: 11 July, 1936.
 Last day for questions: 9 May, 1936.

DARTFORD: NEW MUNICIPAL OFFICES AND ASSEMBLY HALL

The Dartford Town Council invite architects practising in the United Kingdom to submit in competition designs for new Municipal Offices and Assembly Hall.

Assessor: Mr. P. D. Hepworth [F].
 Premiums: 200, 100 and 50 guineas.
 Last day for receiving designs: 21 August 1936.
 Last day for questions: 29 June 1936.

Conditions of the competition may be obtained on application to Mr. J. James Hurtle, Town Clerk, Town Clerk's Office, Dartford. Deposit £1 1s.

DUNDEE: COLLEGE OF ART

The Dundee Institute of Art and Technology are to hold a competition for the Duncan of Jordanstone College of Art and Mr. J. R. Leathart [F.], has been appointed to act as Assessor. Conditions are not yet available.

EDMONTON: NEW TOWN HALL BUILDINGS

The Edmonton Urban District Council are proposing to hold a competition for new Town Hall Buildings, and Mr. E. Berry Webber [A.] has been appointed to act as Assessor. No conditions are available yet.

HOLBORN: PUBLIC BATHS AND WASHHOUSES

The Council of the Metropolitan Borough of Holborn are proposing to hold an open competition for the rebuilding of the Public Baths and Washhouses in Broad Street and Endell Street, and the President has nominated Mr. Kenneth M. B. Cross [F.] to act as Assessor. Conditions are not yet available.

LLANDUDNO: NEW HOSPITAL

A competition is to be held for a new hospital for Llandudno and District with a total accommodation of 150 beds. The first part of the scheme to be built will not exceed 65 to 70 beds. On the nomination of the President, R.I.B.A., Mr. R. Norman Mackellar [A.], of Newcastle-upon-Tyne, has been appointed to act as Assessor. Conditions are not yet available.

NEWCASTLE-UNDER-LYME: BLOCK OF SHOPS AND OFFICES

The Borough of Newcastle-under-Lyme are proposing to hold a competition for a new Block of Shops and Offices, and Mr. H. S. Fairhurst [F.], of Manchester, has been appointed to act as Assessor. No conditions are available yet.

NEWPORT, MON.: NEW CIVIC CENTRE

The Corporation of the County Borough of Newport, Mon., are proposing to hold a competition for the lay-out and design of a new Civic Centre. Mr. E. Berry Webber [A.] has been appointed to act as Assessor, jointly with Mr. C. F. Ward [F.], the Borough Architect. Conditions are not yet available.

SOUTH SHIELDS: ASSEMBLY HALL

The South Shields Town Council propose to hold a competition for an Assembly Hall to be erected on a site at the rear of the Town Hall. Mr. Arthur J. Hope [F.] has been appointed to act as Assessor. Conditions are not yet available.

TIMBER "TOURIST CAMP"

The Timber Development Association, Ltd., are holding a competition for the layout and individual design of a group of camp buildings for a holiday camp, in timber.

Assessors: Mr. E. Guy Dawber, R.A., F.S.A. [F].
 Mr. G. A. Jellicoe [F].
 Mr. G. Langley Taylor [F].
 Mr. John Gloag.

Premiums: £150, £50, £25 and three special mention awards of £10 each.

Last day for receiving designs: 26 October 1936.

Conditions may be obtained on application to The Timber Development Association, Ltd., 69-73 Cannon Street, London, E.C.4.

WATFORD AND BISHOP'S STORTFORD: POLICE STATIONS AND POLICE COURTS

The Hertfordshire County Council are proposing to hold a limited competition for new Police Stations and Police Courts at Watford and Bishop's Stortford, and Mr. H. V. Lanchester [F.] has been appointed to act as Assessor.

WESTCLIFF-ON-SEA: SWIMMING BATH, WESTCLIFF-ON-SEA HIGH SCHOOL FOR BOYS AND WESTCLIFF-ON-SEA HIGH SCHOOL FOR GIRLS

The Headmaster and Headmistress of the above Schools are proposing to hold a competition for a design for a Swimming Bath and invite practising architects who are members of the Southend Chapter of the Essex, Cambridge and Hertfordshire Society of Architects to submit designs.

Assessor: Mr. Percy G. Hayward [F].
 Last day for receiving designs: 1 July 1936.
 Last day for questions: 1 June 1936.

Conditions of the competition may be obtained on application to Mr. H. G. Williams, Westcliff High School for Boys, Eastwood Boulevard, Westcliff-on-Sea. Deposit £1 1s.

COMPETITION FOR JOINT RAILWAY RECEIVING OFFICES IN LONDON

The four main railway companies (L.N.E.R., L.M.S., G.W.R. and Southern) are proposing to hold a competition for a design for Standard Joint Railway Receiving Offices in London, and the following have been appointed to act as Assessors: Mr. L. H. Bucknell [F.], Mr. C. Grasemann, Mr. W. H. Hamlyn [F.], Mr. Charles Holden [F.], Vice-President, R.I.B.A. No conditions are available yet.

COMPETITION RESULTS

SOUTHPORT: NEW CIVIC BUILDINGS

1. Messrs. S. N. Cooke [F.], T. Wynne Thomas [A.] and R. Dickinson [A.] (Birmingham).
2. Messrs. L. Barnish [F.], H. S. Silcock [A.] and H. Thearle [A.] (Liverpool).
3. Messrs. E. H. Cornes [A.] and G. A. Coutts [A.] (Southport).

COVENTRY: BABLAKE SCHOOL, NEW SCIENCE BLOCK

1. Mr. H. I. Jackson [A.] (Coventry).
2. Mr. B. S. Prentice (Coventry).
3. Mr. H. Whiteman [L.] (Coventry).

Members' Column

Owing to limitation of space, notices in this column are restricted to changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and appointments vacant. Members are reminded that a column in the Advertisement Section of the Journal is reserved for the advertisements of members seeking appointments in architects' offices. No charge is made for such insertions and the privilege is confined to members who are definitely unemployed.

TEMPORARY ADDRESS

MR. FREDK. W. MASEY [F.], of Bloemfontein, O.F.S., South Africa, Hon. Secretary O.F.S. Provincial Institute of Architects (President-in-Chief of the Institute of South African Architects, 1933-34) will be in London during the major portion of the coming months of July and August. Correspondence may be addressed to him c/o Cecil A. Masey, Esq. [F.], 15 Caroline Street, Bedford Square, London, W.C.2.

SHARE IN OFFICE

FELLOW is prepared on mutually advantageous terms to place his office (in first-class West End square) at the disposal of a provincial architect, with whom also he will be prepared to collaborate in any London or other work.—Box No. 3046, c/o Secretary R.I.B.A.

Architects' and Surveyors' Approved Society

ARCHITECTS' ASSISTANTS' INSURANCE FOR THE NATIONAL HEALTH AND PENSIONS ACTS

Architects' Assistants are advised to apply for the prospectus of the Architects' and Surveyors' Approved Society, which may be obtained from the Secretary of the Society, 26 Buckingham Gate, London, S.W.1.

The Society deals with questions of insurability for the National Health and Pensions Acts (for England) under which,

in general, those employed at remuneration not exceeding £250 per annum are compulsorily insurable.

In addition to the usual sickness, disablement, and maternity benefits, the Society makes grants towards the cost of dental or optical treatment (including provision of spectacles).

No membership fee is payable beyond the normal Health and Pensions Insurance contribution.

The R.I.B.A. has representatives on the Committee of Management, and insured Assistants joining the Society can rely on prompt and sympathetic settlement of claims.

A.B.S. Insurance Department

PENSION AND FAMILY PROVISION SCHEME FOR ARCHITECTS

This scheme has been formulated by the Insurance Committee of the Architects' Benevolent Society and is available to all members of the R.I.B.A. and its Allied and Associated Societies.

The benefits under the scheme include:—

(1) A Member's Pension, which may be effected for units of £50 per annum, payable monthly and commencing on attainment of the anniversary of entry nearest to age 65. This pension is guaranteed over a minimum period of five years and payable thereafter for the remainder of life.

(2) The Beneficiary's Pension, payable as from the anniversary mentioned in Benefit No. 1, but to the widow (or other nominated beneficiary) if the member dies before age 65. The amount of this pension is adjusted in accordance with the disparity between the ages of the member and his wife.

(3) Family Provision. Under this benefit a payment of £50 yearly is made to the dependant from the date of death of the member prior to age 65 until attainment of the anniversary previously mentioned, after which benefit No. 2 becomes available.

Provision can be made for any number of units (of £50 per annum) up to a maximum of £500 per annum.

Pension benefit only may be secured if desired and the pension commuted for a cash sum.

Members are entitled to claim rebate of Income Tax on their periodical contributions to the scheme both in respect of pension and of family provision benefit.

Full particulars of the scheme will be sent on application to the Secretary, A.B.S. Insurance Department, 66 Portland Place, W.1.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.

R.I.B.A. JOURNAL.

DATES OF PUBLICATION.—1936.—27 June; 18 July; 8 August; 5 September; 17 October.

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